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SIERRA CLUB BULLETIN

VOLUME XI



NUMBER 4

SAN FRANCISCO

1923

PUBLICATIONS OF THE SIERRA CLUB
NUMBER FIFTY-EIGHT

SIERRA CLUB BULLETIN

FOUNDED 1892

PUBLISHED ANNUALLY FOR THE MEMBERS

1923

VOL. XI

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Correspondence concerning the distribution and sale of the publications of the Club, with reference to advertising rates and space location, and concerning its business generally, should be addressed to the Secretary of the Sierra Club, Room 402, Mills Building, San Francisco, California.

PRICE, 75 CENTS PER COPY

Printed by Taylor & Taylor, San Francisco

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THE KAWEAH PEAKS FROM FIVE LAKE BASIN
Photo by R. L. Lipman

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THE LAST DAYS OF THE GLACIAL WINTER
ARE NOT YET PASSED, SO YOUNG IS OUR
WORLD. I USED TO ENVY THE FATHER OF
OUR RACE, DWELLING AS HE DID IN CON-
TACT WITH THE NEW-MADE FIELDS AND
PLANTS OF EDEN; BUT I DO SO NO MORE,
BECAUSE I HAVE DISCOVERED THAT I ALSO
LIVE IN "CREATION'S DAWN." THE MORN-
ING STARS STILL SING TOGETHER, & THE
WORLD, NOT YET HALF MADE, BECOMES
MORE BEAUTIFUL EVERY DAY.—JOHN MUIR

SAN JACINTO, SOUTHERN CALIFORNIA'S NOBLEST MOUNTAIN

BY RALPH ARTHUR CHASE

THE inspiration given by a noble mountain on the horizon is highly beneficial to poor tired mortals. Our daily gaze ordinarily being downward to the material things at hand, one is fortunate if his location permits daily "eye-contact" with one or more of our giant peaks. In that regard, southern Californians living in San Bernardino and Riverside counties are particularly favored in two especially beautiful mountains, San Gorgonio Mountain (11,485 feet) and San Jacinto Peak (10,805 feet).

It is San Jacinto Peak, with its environs, that here concerns us. At its eastern foot lies the proposed Palms National Monument, and higher up the proposed Tahquitz National Game Preserve; on its southwest slope is the charming Strawberry Valley, a retreat for all vacationers; while on its northern face there is that most abrupt decline in altitude, two miles down to the railroad at its foot.

Let us pronounce the name of beautiful San Jacinto. Avoid by all means anything that resembles "Jack." Such an egregious error would arouse the hostile stare, or even the contempt, of those who live under its beneficent shadow. Make that "J" into an "H," and then if you have accented the "sin" syllable you can be admitted to the elect who are its admirers and devotees.

And it deserves both admiration and worship, for it is beautiful both in form and in its location as one of the pillars of the great San Gorgonio Pass, which leads from the cruel heat of the desert to the grateful shade of orange groves and fruit orchards.

King says: "Indian trails led out in all directions, and our only clew to the right path was far in the northwest, where, looming against the sky, stood two conspicuous mountain piles lifted above the general wall of the Sierra, their bases rooted in the desert, and their precipitous fronts rising boldly on each side of an open gateway. The two summits, high above the magical stratum of desert air, were sharply defined and singularly distinct in all the details of rock-form and snow-field. From their position we knew them to be

the walls of the San Geronio Pass, and through this gateway lay our road."

For three quarters of a century this pass has been used by west-bound pilgrims on their way to the promised land of their ambitions. By horseback, prairie schooner, freight caravan, wagon, and later by the iron horse and the automobile, thousands have passed from east to west through this gateway and, like Clarence King, have been guided onward by the great monuments flanking the entrance—San Geronio Mountain on the right, or north, and exquisite San Jacinto Peak on the left.

The tide of human traffic still continues, but, strange to relate, part of it is now eastbound, especially in spring. Then we of the coastal plains feel the call of the great desert. With sleeping-bag and commissary, we can play truant from calendar and clock and engagement-book and haste away to "Our Araby." The tonic influence of a night in the desert, warm while the valleys are cold, and the treat to the eye of mile after mile of glorious coloring such as the human artist cannot approximate, are both rich accumulations in our savings-bank of outdoor experience. Let me trip the alphabetical gamut and say boldly that in a trip to San Jacinto Peak and its environs and desert-approaches the visitor will find, in glorious abundance, at least the following: Azaleas, Arabian dates; black oaks, big-cone spruce, barbed vegetation, brilliant sunshine, badlands; creosote bushes, cactus and cactus-wrens, cliffs, chipmunks, cool green heights, curious birds, cottonwoods, chinquapin, and canterbury bells without care; deer, desert hills and desert-willows, a devil called Tahquitz, a dead sea; Egyptian scenes; figs and fish-hooked bisnagas, firs, filaree; giliac; humming-birds, hot springs, hermits and jacals (another "h" to pronounce); Indians and incense-cedars; Jeffrey pines and joshua-trees; lizards, lava-fields; mesas and mesquite briars, manzanitas, mud-volcanoes; mountains and mountain-sheep and mountain-mahogany; oases, old gold-mines; pines and piñons, parched areas, palms with petticoats; quail; rocks; sand and sand-dunes, squirrels, salt lakes, sweet waters in streams, sugar-pine, sidewinders and scorpions; smoke-trees, sage-brush; tamaracs and tuna cactus; verbenas, violet sun-rays, vales of holly; yuccas; woodland parks, wild cherry, wild currants, wild lilacs, wild lavender, and, the crowning glory of all, wild fan-palms; all of these are to be found in this California Sa-

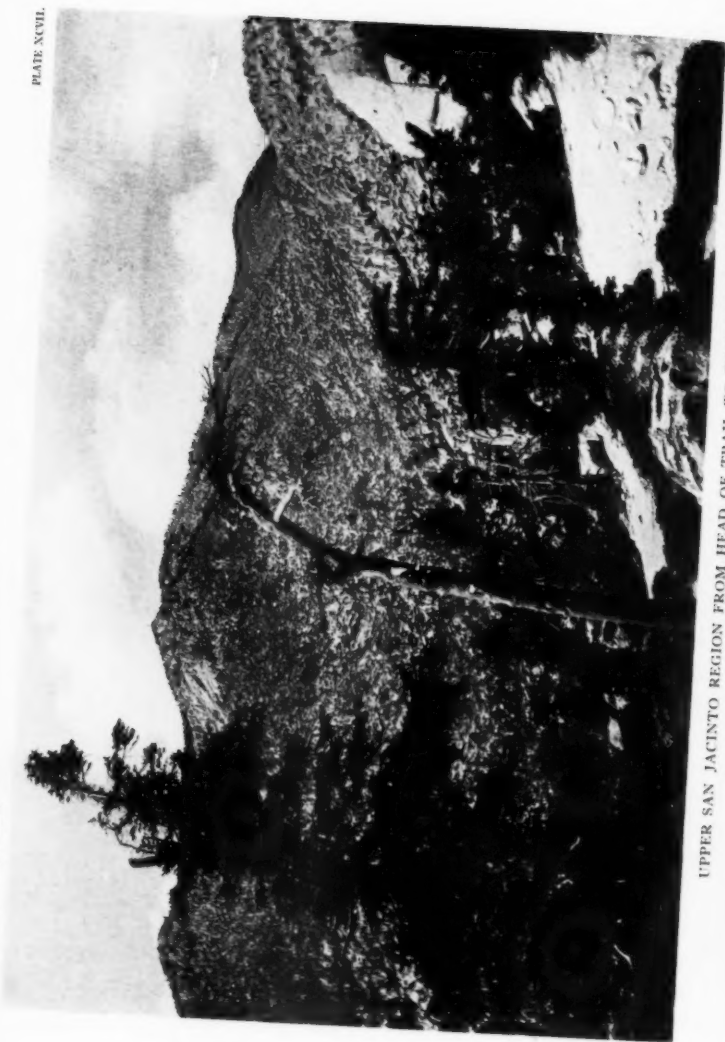
hara and on this rarely beautiful peak. When so breath-taking an assortment of views is to be had, do we not cheat ourselves by failing to go, though it be more than one hundred miles away?

The hiker does not despise the aid of the flywheel. Any transportation is acceptable, even though tainted with gasoline odor, if it will get him to the charmed region more quickly. And for once he appreciates the speed of the automobile as it steadily clicks off mile after mile. Fifty miles ahead appears our favorite peak—yet before noon we have come to its foot, have passed around the quarter of its bulk with many upward appraising glances of pride, have made our last little purchase in the oasis of Palm Springs, and are bumping over the rocky delta that forms the staircase leading upward to the "Council Circle" of giant palms in Andreas Cañon. The difficulty is, like the sentence just finished, we go too fast. An hour before we were in the desert. Our faces had been beaten with the wind-swirl that adds to the bulk of the dunes around the Whitewater River, the principal stream of the northwest end of Salton Sink. This treacherous river for two generations past to the uninitiated has served as a border-line between danger and civilization. Teamsters have always tied their convincing tales of desert hardship to locations one side or the other of "Whitewater." To this day even, one does not know when the dry stream bed may change into a torrent, either of water or of sand, and monopolize man's own puny roadway that crosses it so apologetically.

The desert on our left stretches several hundreds of weary miles southeastward, but from our right come dancing, in surprisingly large volume, the white waters of mountain streams. With their singing, and the vivid pleasure gained from their deliciously cold appeal to one's palate, they certainly deserve a better fate than that of being blotted up by the thirsty sands before they have danced twenty minutes more. If we are fortunate in the time chosen, the Mohave dust has been laid by the rains before March and the desert has been tamed to a genial medium degree of heat. Probably its floor for acre after acre, and for many square miles, will present the glory of great masses of deep lavender. The pink sand-verbena is the contributor of this carpeting of delight, this appearance of a sea of exquisite beauty; and by the law of its being it will linger and keep the arid slopes in holiday garb long after the many other spring blossoms have drooped and faded away.



IN PALM CAÑON
Photo by A. C. Lovekin



UPPER SAN JACINTO REGION FROM HEAD OF TRAIL TO TAHQUITZ VALLEY
Photo by A. C. Lovekin

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Andreas Cañon affords the best camping-ground, and is the first of three: Andreas, Murray, and Palm cañons. These, and the desert slopes leading up to them, form a new national monument of approximately sixteen hundred acres now in process of being legislated into life. They contain natural growths of the *Washingtonia filifera*, the native American palm tree. Their hundreds of light-green, dignified, banner-waving, graceful branches, give the impression that the trees are moving in stately procession from the heights downward, and cause involuntary cries of admiration when first observed.

The details of camp housekeeping being disposed of, chiefly by each one choosing a sheltered spot remote from the "most cantankerous of cacti," the cholla, the urge is strong to follow the green procession upward. The palms have been found at the twenty-five-hundred-foot elevation, but, as we are now at one thousand feet, we shall not attempt to see the most ambitious ones. What we want is the elevation given by the strange uptilted red rocks back of Andreas, to afford us an appropriate spot from which to study the desert with its weird violet light and consequent indigo shadows.

We feel the shelter of the great wall mountain behind us, but for the present we ignore it. Our outlook is now eastward, for about three o'clock the sun has set for this cañon. The foreground at our feet is now all in deep shade from the great red and black mass against which we lean. A few rods away, however, and thence to the Colorado River, the desert is in brilliant sunshine, and over it, elevated far above its glimmering white sands, is a sky that reflects from somewhere those sunset effects of bright color that cause all nature-lovers to enjoy the twilight. Were our station higher on this wall that looks like, but is not, of volcanic origin, we could see more of those isolated buttes that abound in the sands, and perhaps forty miles away the waters of the mysterious Salton Sea.

The desert is not all gray or brown, by any means. In fact, there is no color or shade of color that it does not disclose at some time. There are immense patches of red, black, and purple that one instantly ascribes to some volcano, and great areas of white from dried-up lakes. Silver and saffron and lavender hills all assume changing colors according to distance of observer and different conditions of sunlight and shade. Along the slopes of the mountains may be seen dwarfed cedars and piñon trees, while in the lower

reaches the tree-yucca, mesquite, creosote, and smoke-bushes make their characteristic appearance.

To one's mind, all this is merely a setting for those lifelike saintly trees of which we had too brief a glimpse and which we shall study on the morrow—the creatures that had “their feet in the water and their heads in the sun”; they of the fresh green crown, but with stout trunk obscured, “swathed in huge petticoats of drooping gray leaves which have served their day”—the magnificent wild fan-palms, the most interesting and the rarest natives of the region.

The morning and evening displays of color are said never to be twice alike. We can believe this readily as before our eyes the neighboring spurs, the cruel but picturesque battlefields of the different forces of nature, change with the hours from gray to red, to violet, to indigo, and settle at last into night's blackness, leaving one hungry, as at the Grand Cañon of the Colorado, for another sight. We shall descend now because such sights make a poor blundering mortal like this writer confess his inadequacy to tell of the sacramental beauty of the desert side of San Jacinto when the crepuscular lights are being dimmed.

San Jacinto has the distinction of being the steepest mountain for its height on the continent. In Palm Springs we are 455 feet above sea-level. The summit of San Jacinto Peak is 10,805 feet. As near as may be, therefore, there are two miles of verticality to overcome if one aspires to the summit. If so ideal a camping-place causes us to dream, it may be the night journey will have us follow in fancy the Gordon Trail—the unique short cut from Equator to North Pole, from the desert to snow, from palm trees to pines, the trail without a rival in the world! Or our dreams may wander to the plight of two of our best mountaineers, who, disdaining any trails, attempted the fantastic rocks and great tree-covered ledges down the seventy-six hundred feet of difference between Hidden Lake and the mouth of Tahquitz Creek. The linear distance probably did not exceed five miles, but it took four days to make the descent! And as we are lost and groan aloud, our neighbor says “Four-thirty,” and we realize that the second day has come upon us with its many activities to cover.

Andreas Cañon does not possess so many of the graceful palms as does Palm Cañon. It has, however, a striking arrangement of stately trees in an irregular circle of about one hundred feet diame-

ter. Though they are known to have been planted, the deep shade in this so-called "Council Chamber" leads one's thoughts back to crouching Indians in pow-wow parliaments. In all these cañons the tall palms are gloriously free from any "barbering" such as your city gardener gives their domestic cousins. Except where cattle have made inroads, or careless fires have denuded them, each tall palm is still embellished by a thick covering or skirt of old gray leaves lying dormant against the trunk.

Murray Cañon is even more narrow and irregular. It is an up-tilted gorge of granite, with many attractions for the hiker who follows its winding stream upward. Next comes the West Fork, and beyond is the largest stream, the South Fork, or main Palm Cañon. This is perhaps ten miles long and has the width of a large mountain pass. Here are the largest stands of palms. The view of the first group is only to be had by climbing a ridge, whence one looks down upon them suddenly as if transported by a magic carpet to the Orient or to the tropics.

Surely these waving trees of exotic beauty, with their background of many-hued rocky cliffs, should be the wards of the National Government. A bill to create a national monument of these three cañons, passed both houses of Congress in August, 1922. But they are part of an Indian reservation. The Agua Calientes own them and use the water on their scanty ranches in the desert below. There is a proviso preserving their water-rights; also that the law will be effective as soon as these Indians are paid for their land. The payment is provided for by public-spirited individuals.

The place needs the protection of the National Park Service now. Rock-strewn roads for miles have not kept the Sunday camper out, and all too frequently defacement follows where there is no supervision. Temporary shacks, tin cans, waste papers, and pink gum-wrappers are disturbing, but the greatest menace is fire. It is said that while the bill was still being considered in Congress twenty stately trees were burned through lack of care.

The Tahquitz National Game Preserve is also proposed for our wonder mountain. This sets aside, on the top and eastern slope, an area of about forty sections (25,600 acres), under the control of the Bureau of Biological Survey, as a shelter for mountain-sheep ("big-horns"), black-tail and mule deer, quail, tree-squirrels, doves, and the like. These beautiful creatures are there now, as sleepers can

testify who have been aroused at dawn in the sweet serenity of Tahquitz Valley. Twenty-four square miles of the huge shoulders of San Jacinto lying above the eight-thousand-foot level, most of it pastoral valleys and well-wooded ravines, make an ideal home for these gentle animals, now being rapidly exterminated. If protected, they will multiply and doubtless form a source of supply from which adjacent regions will automatically be stocked. The preserve is to be above the twenty-five-hundred-foot level on the desert side, and, as there are no wagon-roads from any side, the country being generally wild and inaccessible, and its agricultural value being slight, no good reason can be presented in opposition.

The west side of San Jacinto is typical mountain-forest region, where there is no hint of the desert. It is reached by a different route and is many miles around from Palm Cañon. When our transportation ends in the great bracken ferns two miles above Idyllwild we are fifty-five hundred feet above the sea. Above us towers a column of white granite, superimposed on the face of the rock, the famous Lily Rock, visible from far away.

Our first night's camp is to be in Tahquitz Valley at an altitude of eight thousand feet. Here we find an old log-cabin in a meadow that is comparable to the exquisite Sierra meadows. Here no automobile has ever been. There is a wholesome outdoor fireplace; the other man has cleaned up when he left and has buried his cans, for the spirit of the place urges these good-fellowship ministrations. With deep supplies of pine needles for beds, exhilarating sleep is ours, and next day, as rejuvenated mortals, we take the springy, turflike trail through sylvan woods on our way to Round Valley, or Hidden Lake, to the summit.

A forest of incense-cedar, pine, and fir, and as well a region of flower-sprinkled meadows! Yellow violets are here in June, lemon lilies in July, red pentstemons in August, and later the goldenrods, with myriads of others in between. The incense of resin and of wild-wood flavors, and the moist, sweet, fragrant beauty of the succession of glades, grass and flowers always underfoot, and many singing streams to cross, tempt us to linger. We do so, convinced that had such delightful meadows been available to Thoreau's neighbors in Massachusetts in the '50s, he would not have protested that "sauntering is one of the lost arts"!

A Sierra Club member, Arthur C. Lovekin, has written of this

region in words with which all who visit it must agree. He says: "The upper portion of the San Jacinto Mountain region is a wide expanse of many square miles of rugged peaks and cañons interspersed with many alpine meadows that in summer are verdant with luxuriant wild grasses and carpeted with our most beautiful alpine wild flowers: lupins, lilies, asters, and many others known only to our incomparable California sky meadows. Ample forests of well-grown pine, tamarac, and spruce, untouched by the axe of the homesteader and as yet unscarred by forest fires, clothe the ridges and hedge around the meadows through which ripple clear alpine snow-fed rivulets. In one place a beautiful little mountain lakelet mirrors the sky, high amid the peaks. Birds and bees and butterflies, with the many other forms of harmless animal life, here find spread a bounteous table, and live full lives under the protection of this mountain sanctuary. No more beautiful primeval region exists in all of our western Sierra."

How well Hidden Lake deserves its name! Were it not for a friendly sign we might pass the entrance and be robbed of the chance to see its unique beauty. The sign directs through a gap in the rock wall and we descend a slight slope to the shore line of this perfect gem of water with no inlet or outlet. We do not drink its waters, but it is sweetly pure to the eye and as quiet and placid as water can be, the surface reflecting a noble, high, tree-fringed cliff above and around it. We go to the other side and a short distance beyond, to the outlook, a rock balcony that stands above the sheer side of Chino Cañon, a mile and a half deep, where we look down from more than twice the height of Yosemite's Glacier Point. Fascinated by the scene, we turn our eyes outward over our Palm Cañon camp far below, and look out mile after mile over "the country God forgot"—the awe-inspiring Colorado Desert.

We must still ascend twenty-eight hundred feet to the summit. The wonder of the desert still dominates our minds while we progress through trees and flowers and running water, homes of happy birds in the bountiful vegetation and stalwart trees—the rarest fifteen thousand acres of sweet vacation country on any one mountain in the world. As we gain the summit and look many miles across to the great shifting sand-mountain called the Devil's Playground, we need some man-made object to give us back our sense of proportion. What a relief when the eye is attracted to something

that toils laboriously, caterpillar-like, across the sand wastes two miles below! Sober judgment tells us it is a locomotive and cars, but we laugh at the object's immaturity as it slowly winds its way, in a fourth of an hour making no apparent progress in comparison with the vastness of the scene.

The view from the top of San Jacinto Peak is extraordinary. The location is the geographical center of southern California, but the eye refuses to stop at man-made boundaries. On clear days the crest of the Sierra Nevada and Mount Whitney may be seen from here. To the east and southeast lie the desert and the Salton Sea, and the dim horizon suggests the Colorado River three hundred miles away. Looking north across San Geronio Pass, we see San Bernardino and San Geronio mountains and many others over ten thousand feet in altitude, all within thirty miles distance. The Morongo Hills and the Chocolate Range also lie before us. In the west we discern the curve of the ocean shore forty-five miles away, and, if luck is with us, the blue water and crystal sky may clearly mark the outline of Santa Catalina and San Clemente islands. Nearer to our feet lie many towns, set in valleys of great fertility. To the south and southeast the eye follows the Santa Rosa, Palomar, and Laguna mountains to Old Mexico.

Here we can linger for many repeated views. If the reader has vicariously enjoyed the approach to this mountain and the ascent of its slopes to the summit, and has caught the spirit of its unique location and its inherent attractiveness, he will pardon our staying for a while. Vision is here increased and our delight in the beauty of the world is quickened and encouraged, for with a trip to the base, or half-way up its wooded slopes, and especially to the summit of San Jacinto, there comes the conviction that one must come again, for here indeed is one of those regions where Nature has made her best and fairest and most lavish display.

A NEW LINK IN THE JOHN MUIR TRAIL

PALISADE CREEK—MATHER PASS

By J. S. HUTCHINSON

MY only disappointment in the Sierra was in 1908. J. N. Le Conte, Duncan McDuffie, and I had worked south from Yosemite on our "High Mountain Route,"* as far as Grouse Meadows, and all the way had traveled near the Main Crest, following pretty much what has now become the John Muir Trail. This was long before the present trail down the Middle Fork from Grouse Meadows had been built, and we found ourselves in a pocket, or blind alley, in a wild jumble of jagged peaks, with no trail and no definitely known way out. Could we follow our itinerary, planned months before, we would go up Palisade Creek to its very source, cross a pass in the Monarch Divide where it joins the Main Crest, and thence to Pinchot Creek, five miles distant. This route would take us under the very eaves of the three Palisades and close to the Main Crest all the way.

We were now in the very heart of the Sierra. It would seem, according to different writers, that the Sierra has several hearts located in different places. If this region is the heart, then Palisade Creek is its principal artery. Le Conte, in "*Alpina Americana*," well describes this wonderful region, and closes by saying: "The Palisades—the culmination of Kings River Basin—furnish the very finest field of the Sierra for the mountain climber."†

Full of enthusiasm on this trip, in 1908, we had started up Palisade Creek from Grouse Meadows, following an old abandoned sheep trail as far as Deer Meadow. Here, finding the going very rough, we made camp, left our animals, and spent the whole day exploring. Palisade Creek flows through two valleys—an upper and a lower one—with a thousand-foot descent between them. Deer Meadow is in the lower. A mile through thick brush and rough talus brought us to the end of the lower valley and to the base of the high falls, cascades, and cataracts which separate the two valleys. We

* *SIERRA CLUB BULLETIN*, vol. VII, No. 1, 1909, p. 1.

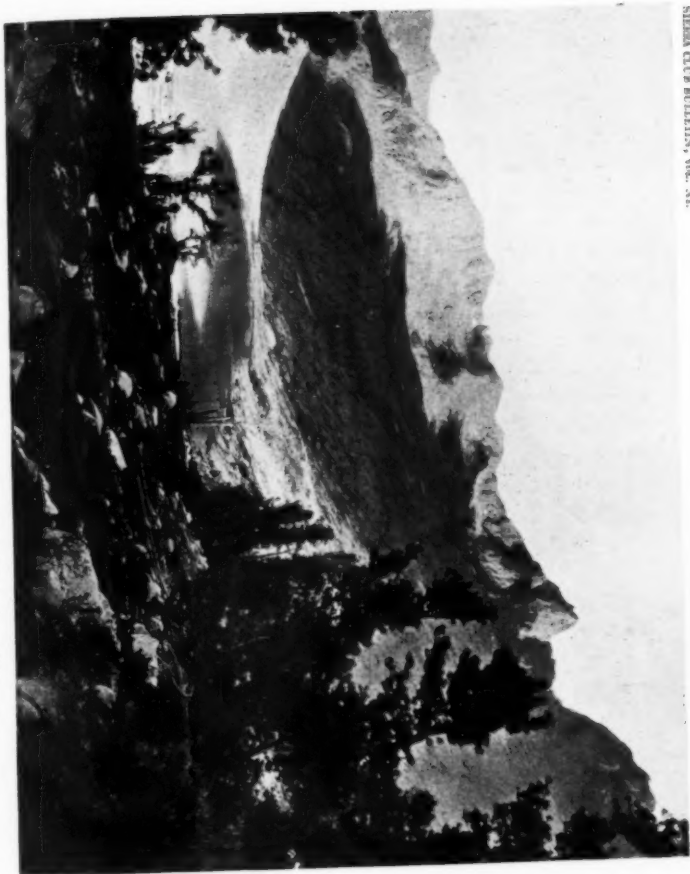
† *Alpina Americana*, No. 1, p. 10.

spent several hours scouting for an animal route up, examining particularly a number of chutes and chimneys which come down directly from above to the north of the falls. Nowhere could we find signs of sheep having been through. This was discouraging. In the upper valley, above the falls, we again found old signs of sheep, but there was the interval of a mile and a drop of a thousand feet where there were no signs whatever of anyone having been before. It was a sort of "No Man's Land."

We continued on up to the pass in the Monarch Divide—"Palisade Pass," as we called it. Here were remnants of an old way through—a few monuments or "ducks" here and there, but these were all. From the summit we could look southward through a fine country, easy to travel, to Pinchot Creek, just where we wanted to go, and from that point we knew we could follow a very high alpine route through to Vidette Meadow on Bubbs Creek. Returning to the falls, we again scouted about for a possible route. There were several chutes leading down, but they were all choked with huge blocks fallen from the cliffs above. Mother Earth, on this her Palisade Cañon Route, had established a first-class block system for pack-trains, with all the blocks set against us. There was one chute, however, where I felt that with much work—building up stretches of trail, removing boulders, possibly unpacking several times and carrying our packs—we might get through. This would have consumed more time than we could spare.

Finding this way blocked, we had to look for another way out of our blind alley. This was found up Cataract Creek, across to Lake Marion, thence to Pinchot Creek—in all, three days' travel from Deer Meadow. Could we have gotten through the mile of "No Man's Land" in Palisade Creek, we would have reached the same point on Pinchot Creek in a single eight-hour day, and have been close to the wonderful Palisades all the way.

The present route of the John Muir Trail south from Grouse Meadows follows down the Middle Fork to Simpson Meadow, then crosses Granite Pass to the South Fork at Kanawyer's on Copper Creek, thence up Bubbs Creek to Vidette Meadow, and finally on to the Kern. This route to Vidette Meadow takes you far away from the Main Crest and goes down to comparatively low country. At Granite Pass you are fourteen miles from the Main Crest, and at Copper Creek you are down as low as five thousand feet. Between



UPPER LAKE IN UPPER VALLEY OF PALISADE CREEK
Photo by J. S. Hutchinson



FROM "NO MAN'S LAND," LOOKING DOWN THE LOWER VALLEY OF PALISADE CREEK
Photo by James K. Moffitt







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 AND THE ROUTE OF THE
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Simpson Meadow and Kanawyer's you have a heart-breaking climb of forty-six hundred feet, and then a tremendous drop of fifty-six hundred feet. It is a magnificent trip, but not the high mountain route which the John Muir Trail is intended to be. Were it possible to get through the break of a mile in Palisade Creek, one could then go the whole distance of thirty-seven miles from Grouse Meadows to Vidette Meadow by a really high mountain route and through glorious alpine country all the way, crossing three passes—Mather, Pinchot, Glenn—each twelve thousand feet high, and each only a mile and a half from the Main Crest, while the lowest point reached is eighty-seven hundred feet, at the crossing of Woods Creek.

The abandoning of this Palisade route in 1908 was a very great disappointment, and ever since then I have longed to work a way through with a pack-train; but I had to wait fourteen years for my next chance to get into this inviting country—the country of our defeat. In July, 1922, it came.

J. K. Moffitt, F. C. Torrey, Bill Lewis (our packer), and I left Giant Forest, on July 20, with four saddle- and four pack-animals—all good mountain animals—bound for Yosemite. We were to travel the John Muir Trail, cutting out the Kern River and Granite Pass parts, and go across the really high mountain route from Vidette Meadow to Pinchot Creek, and thence, if possible, by Palisade Creek to Grouse Meadows. Francis Farquhar and Ansel Hall had knapsacked through this Palisade Creek country the previous summer, and had told us of meeting the Hamlin party, of Buffalo, New York.* Under the guidance of two good packers, and with good mountain animals, this party had gotten down Palisade Creek, but just what troubles they had encountered we did not know. They had named the pass by which they crossed the Monarch Divide into Palisade Creek, "Mather Pass."

From Giant Forest we took the J. O. Pass route to Copper Creek. Here we picked up the John Muir Trail and followed it up Bubbs Creek to Vidette Meadow on its course toward the Kern. At Vidette Meadow we left that trail and started on the real High Mountain, Main Crest, Sky-line Route for Grouse Meadows, via Palisade Creek. Although above timber-line most of the way, we alighted at night in the timber for feed, fuel, and other camp purposes. The trip over Mather Pass and down Palisade Creek was to be the real

* SIERRA CLUB BULLETIN, vol. XI, No. 3, 1922, pp. 264, 269.

pièce de résistance of our whole outing, and we planned to spend several days, if necessary, in getting through.

I will not describe in detail the trip from Vidette Meadow to our camp on Pinchot Creek other than to say that it is probably as fine a stretch of high alpine country as you can find in the Sierra. Near Glenn Pass we found a construction camp of trail-workers. It was Sunday, and one of the men was hanging out a very large wash. I remonstrated with him for thus violating the Sabbath. He replied that it was a work of necessity, for all his clothing had been soaking in Bubbs Creek for twenty days on a pack-mule drowned in that stream; and his story seemed true, for his garments were badly stained and water-worn.

Care must be taken in crossing Rae Lake. The trail crosses on a ledge under water. This ledge is easy to follow, and there is little excuse for getting off, but again this year, as in 1908, a pack-animal got off and swam around in deep water until rescued. This was disconcerting, for, foolishly, all our matches were in that particular pack, and although in so-called "water-proof tins," half of them were ruined.

Our third camp after leaving Bubbs Creek was on Pinchot Creek, near the last of a chain of lakes, on a high, flat meadow-land. A long stretch of the Monarch Divide lay like a panorama before us, across the cañon of the South Fork, and where this divide joins the Main Crest we could see, five miles distant, Mather Pass, for which we were headed on the morrow, and through the notch of this pass the Middle and North Palisades thrusting up their ragged saw-tooth spires. The country surrounding the camp was very open, and, although surrounded by high peaks, one had the feeling of being on the top of the world. The sun set just as we finished dinner, and the pinkest of all pink alpenglows spread over the landscape, then gradually faded to gray; twilight came, and out of the deepening darkness in the western sky came Jupiter, Venus, Saturn, Mars, close together, all in alignment, all of great brilliance.

The next morning we had to do some little maneuvering to get down to the South Fork, but once there the going was easy and the way well monumented directly toward the pass, at all times plainly in view. We had planned to camp at the last lake near the southern base of the pass, but the season was late, and the short-hair was too short for feed. Besides, there were no trees for shelter or fuel nearer

than a mile. The day was still young, so we decided to take the chance of getting over the pass into Palisade Creek by nightfall.

The route up the five hundred feet to Mather Pass was extremely steep. Half its slope was talus—huge boulders at the bottom, decreasing in size as we ascended; then the boulders gave way to shale, gravel, and sand, all lying just at the angle of repose. In the rocks the route was fairly easy to follow, for someone with much effort had thrown boulders aside and filled in holes. In the shale the trail, such as it was, zigzagged back and forth with short, sharp turns—steep, sliding, and tiresome. By a gentle grade it then worked across the back of a large granite buttress, and in a few minutes we were at the pass.

There is nothing more fascinating than going "over the top" at a pass—the thrill, the excitement, the mystery of what is beyond! You plod up and up, ever watching your step; over rough rocks, rolling and sliding; over loose, steep shale and sand. You are out of breath; you are weary; the blazing sun beats down upon you; you may say, "What's the use?"—when all at once you reach the top and get that grand expansive view and look over into a promised land, on to weird snow-fields, to silvery, flashing streams, down into azure lakes, up to ragged peaks, into the purest of pure air and the bluest of blue skies. It is the call of the high country; the call of the Main Crest; the call toward heaven! It is irresistible.

We were now on Mather Pass—on the exact spot where Le Conte, McDuffie, and I had stood in 1908—the pass we had to abandon so reluctantly at that time. It was marked by a large monument of rough stones, which contained a number of sticks upon which were carved a dozen or more names. The view northward was to the ragged peaks of the Middle and North Palisades with Mount Sill showing up between them. In the bottom of the valley were two rock-bound lakes completely filling it from side to side, one plainly visible, the other partly so. Near the first lake was a patch of timber, where we wished to camp. It looked near at hand, and we did not know the difficulties which lay in our way before night. To the southward, in full view, close at hand, lay the South Palisade, or Split Mountain. We could plainly see the whole of the route we had followed that morning. We started down, following some "ducks" we had left in 1908. I had forgotten how rough it was—a continuous succession of rocky shelves and terraces down which the animals

plunged and jumped. Each animal required personal attention, care, and most persistent urging.

We had now gotten through the snow-fields and into the rocky talus. The going was better, but rough on the animals. By skillful maneuvering, in a circuitous route, we made fairly good progress, down and ever down. Suddenly those of us ahead heard a shout from the rear. Looking back, we saw one of the horses, rearing and plunging frantically, with a hind hoof caught in a crack between two boulders. In his frantic efforts to extricate himself it was a miracle his leg was not broken. Should he fall, a break was certain. We rushed back, grabbed the animal's head, and finally quieted him. So high above timber-line there were no poles to be found to use as levers. With the shovel handle we tried to pry the hoof loose. We tried to pry the boulders apart. All without success. Neither would move. While Torrey and I held the animal's head, Moffitt and Lewis set to work digging about the smaller of the two boulders. It was deeply imbedded and awkwardly placed, the quarters being narrow and the horse's free leg in the way. The boulders were surrounded by small rocks and pebbles, which had to be removed, and the shovel was a poor implement for such work. Little by little the small stones were removed surrounding the smaller of the two boulders, and we used all our force to move it, but it would not budge. After an hour's work, we had dug deep enough around the boulder to get the lariat looped under a corner; then, exerting all of our strength, it was moved half an inch. This was just enough. The imprisoned animal jerked his hoof loose and was free. His fetlock and leg were badly scratched and bleeding, but otherwise he was uninjured.

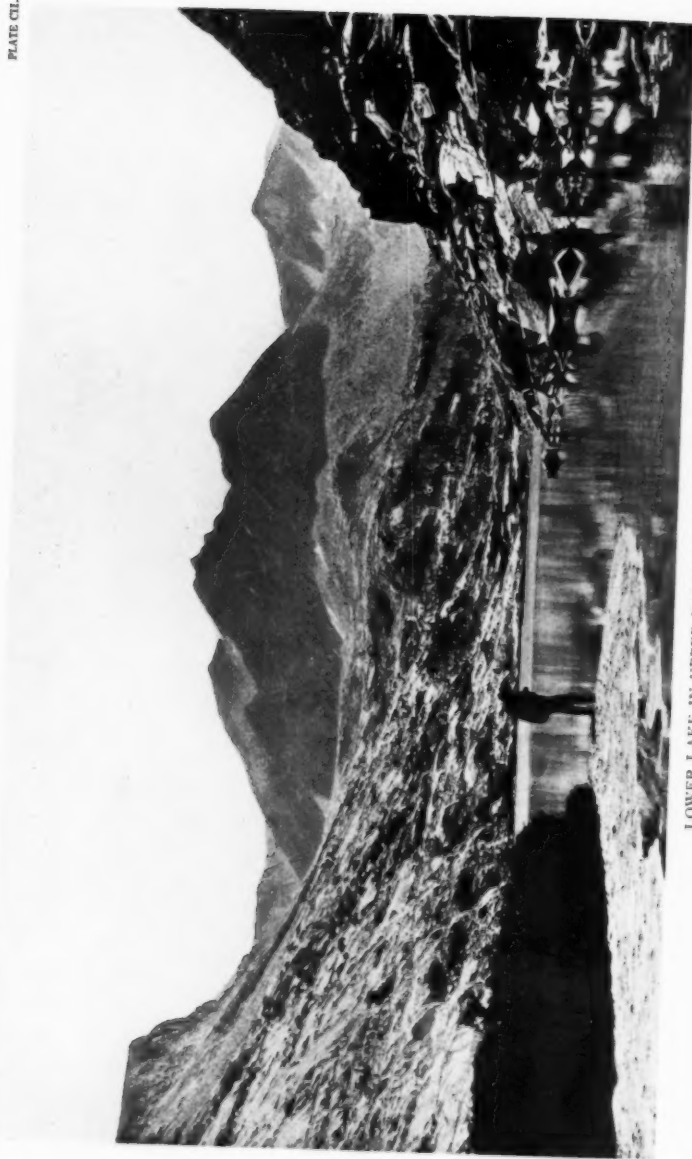
We then moved rapidly down toward timber-line, and in half an hour camped in a picturesque weather-beaten grove of *albicaulis* a few hundred yards above the beautiful rock-bound lake, with a fine meadow-land of short-hair extending from our camp to its southern shore and a babbling mountain stream flowing down near by. It was a steep hillside, but there were level terraces enough for kitchen, dining-room, and bedchambers. High above us rose the jagged teeth of the Middle Palisade. As we sat at dinner, looking down toward the lake, we were startled at seeing tiny moving objects on a little peninsula projecting into the lake. With the glasses, they proved to be a group of boys.

We had just finished our meal as the last rays of the setting sun



PLATE CL.

MANTHER PASS FROM FOOT OF SPLIT MOUNTAIN, UPPER BASIN OF SOUTH FORK OF KINGS RIVER
Photo by Ansel F. Hall



LOWER LAKE IN UPPER VALLEY OF PALISADE CREEK
Photo by Ansel F. Hall

tipped the Palisades with gold. The lake below us turned to a sullen gray and the white snow-fields shone out in vivid ghostlike contrast. A huge camp-fire of enormous bleached-out pine roots gave the usual genial warmth, and soon the cold scene was turned to one of cheer and comfort. We sat about the fire discussing the day's events and tomorrow's trip through "No Man's Land." We counted our passes to date: J. O., Marvin, Summit, Glenn, Pinchot, Mather. Bill said: "A pass a day for six days," and, later on, was "peevish" when we failed to keep up this record, although at the end of the trip he found that we had recorded fifteen passes in twenty-one days. Moffitt said: "There are free passes for all, on this route, but you have to work for them, just the same."

That night each had his own terraced bedroom in his own particular clump of *albicaulis*, and slept on a heather-bed of the most delicate and luxuriant *cassiope*. Once or twice during the night I awakened and heard the tinkle of our cow-bell, faint and far away, looked up at the stars, never more brilliant, and saw the Milky Way like an illuminated cloud across the heavens. In almost no time it was dawn.

The day was to be an exciting one, for we knew the worst was yet to come. At daybreak all were up, and it was cold. The air was very chill and vapor was rising from the lake. Snow-fields were close at hand. Frost was on the meadow and ice on the little pools. "If winter comes, can spring be far behind?" Yes; in these alpine regions. It was the end of July, and yet the pussy-willows were just sending out their catkins. Coffee, mush, prunes, and bacon were ready just as the first rays of the rising sun tipped the knife-edge and gradually lit up the peaks to the west. The welcome sunlight slowly crept down until it lighted the lake and reached our camp.

Bill had found the animals high in the rocks, where they had sought warmth, and herded them in. In an hour we were packed and started. A few hundred yards down the cañon we reached a point where we could look toward the Crest. High up on a glacial shelf we saw the boys' camp. They had a large "flock" of burros, which they were packing. The circuit of the first lake was comparatively easy, partly through some rocks, but mostly over little grassy meadows. Between the two lakes we met a large, tall man, with long flowing beard down to his chest. From a distance he looked like a Russian, but we found him to be a Mr. Barrett, from Cornish, New

Hampshire. He said he was with the boys; they had forty burros; were on a scientific expedition; the year before they had been in the cañon, having crossed from the south by a route a little farther west than Mather Pass, and had gone down the cañon over the falls, lowering their burros with block and tackle. This was encouraging.

We were in full view of the second (or lower) lake, about the same size as the one we had just passed. The slopes from the Middle Palisade descended precipitously, by shelves and terraces, down into the deep blue waters of the lake. The slopes near the lake were polished and treacherous in appearance. Our new acquaintance said he thought we could get around by going high up into the cliffs; that we would find "ducks" up there. We started up the rough slope—first in one chimney, then in another—getting higher and higher, until we reached impossible places. Here we stopped the train and scouted over the slope. Many "ducks" were found leading in divers directions, but they all led into greater difficulties. This duck-hunting is great sport if you have plenty of time, but, as Torrey said, "Our duck-hunting turned into a wild-goose chase." Finally, a narrow chute was discovered leading down to a slick buttress extending out into the deep waters of the lake. By a very narrow ledge we were just able to get across the buttress and down to a grassy slope near the lake. At this place I thought of what Stewart Edward White said about his ledge trail: "Each animal's got only one stumble coming to him." But even in this place Bill rode his horse. Horsemen brought up in the mountains have an unwritten law that a saddle-horse is meant to ride. It is against all the rules of their game to go afoot, and it was thrilling to see Bill ride his horse in impossible places. But there was one place where he did not ride, and that was down the chute we were coming to in a couple of hours.

The cañon was now more open—the descent fairly gentle for the next mile—and we moved down to the rough work which commenced a mile above the falls and cascades. The packs were readjusted, the center of gravity being lowered as much as possible. One pack was divided and half was placed on a saddle-horse. Just before starting we took a last look at the Middle Palisades; there on the steep slopes we could see the party of boys with their "flock" of burros slowly zigzagging and scrambling up the steep walls, and before we left they had disappeared over the top into the basin at the foot of the mountain.

The descent for the first five hundred feet was accomplished with little difficulty. Suddenly we reached the brink of the falls and got a thrilling and almost terrifying view down into the deep valley below. It was certainly a jumping-off place, where all routes seemed to end, and we thought of the block and tackle mentioned by our chance acquaintance. We could see Deer Meadow far below in the distance, and farther down the fine glacial U-shaped lines of the valley. There seemed to be no way out; but finally to the north we found slight signs of a route, and presently saw where someone with much care and labor had constructed a rough rock incline leading from a little gorge to the top of a smooth buttress eight or ten feet above. From here the route turned abruptly to the right and led directly to the top of a terribly steep rocky chute plunging down toward the cañon below.

Now the real work began. The animals were taken in hand, one at a time. Each step had to be considered carefully. Every ten or twenty feet we had to maneuver to get the animal turned and headed in the right direction. In many places this was quite an engineering feat, the chimney was so narrow and the boulders so crowded together. It was full of great drops, where the animals must either plunge down or let their forefeet slide before the final jump to the landing-place below. When they finished the plunge they must turn abruptly to avoid striking against the walls of the gorge. In other places they slid on their haunches or plunged down with such speed that they would go many feet before checking themselves. Now and then they started small avalanches of rocks. We rolled rocks to make landing-places; we built up steps; we chinked in holes so their hoofs might not catch. Each animal had to be coaxed, urged, pushed, pulled, and entreated. Sometimes he would be slowly urged to the very brink of the plunge and then refuse absolutely to go; would suddenly veer around, head about, and we would start all over again. This was a great time-consumer. The next time, however, he would go—he had to go—plunging down and through the loose rocks. In some places the animals squatted and slid on their haunches; otherwise, they would have gone end over end.

In an hour we were down to where we thought our troubles ended; but shortly we came to a high cliff impossible of descent—we must get into another chimney. A search led us horizontally through the rocks to the next chimney north—much larger and less steep, but

full of the roughest talus. Here were signs of a way through, where horses had been taken. Rocks had been rolled to one side and holes filled in. The next quarter of a mile was through this rough talus, but it was a paved highway compared to what we had been through. Then we struck the thick brush—so thick it would have taken hours to work through had we not found where sheepmen years before had hacked a route. It was almost overgrown again and we could just follow it. All at once we broke through and were in a fairly open valley. Half an hour more and we were in Deer Meadow with its beautiful trees and wonderful flower-gardens, with the grass knee-deep for our hungry animals. Their packs off, they hunted dusty spots for their accustomed roll and then set voraciously to feeding.

It had been a long day and was now late afternoon. We each had a hot toddy and a light luncheon and felt refreshed. Torrey botanized and Bill made "mulligan." Moffitt said he wanted to find our camping-place of twenty years ago, his little island where he had slept, and the old shoes he had left hanging on a tamarack; so we followed up the stream. His island was still there, but his shoes had fed the kangaroo-rats.

Feeling that we had accomplished much that day by getting through without disaster, that night we celebrated with an elaborate dinner—cream of lima-bean soup, mulligan, biscuits, asparagus with French dressing, plum-pudding. Around the camp-fire we discussed our trip down through "No Man's Land" and the possibility of going up, deciding that the best pack-train for the ascent would be one composed of donkey-engines, hydraulic jacks, Le Conte's gasoline mules, and the latest mechanical mountain burros that walk on four legs.

The next morning we started westward from Deer Meadow, the valley becoming more beautiful with each step. We passed through numerous little meadows filled with many varieties of wild flowers growing in the greatest profusion—monk's-hood six feet high, as fine as we had ever seen; alpine lilies, dodecatheons of many shades, larkspur, and columbine. The stream, with its sparkling cataracts, falls, and placid pools, is beautiful. The cliffs and peaks are varied. The view down and across the Middle Fork to the Devil's Crags and the Black Divide is startling. Finally we struck the broad highway of the John Muir Trail at Grouse Meadows and were "in civilization" again.



THE CYCLOPEAN GRANITE GRABS OF THE SALMON ALPS

Photo by Frank A. Williamson



THE GLITTERING LAKES OF STUARTS FORK AND THOMPSON PEAK FROM HENNESSY LAKES
Photo by Frank A. Williamson

We had now followed Palisade Creek through its turbulent career from its birth in the snow-fields at Mather Pass twelve thousand feet up, down its four thousand feet of descent in ten miles to where it loses its identity and gives up its life to add to the majesty of the Kings.

This "way through" Palisade Creek is at present a one-way route—from south to north—for you can push, slide, and throw animals down places where you cannot get them up. Gravity is of great assistance. No one as yet, so far as we know, has been up Palisade Creek with a pack-train. Some day, however,—soon, I hope,—there will be a good trail through, for you will then have a really "high mountain trail"—the highest possible between Grouse Meadows and Vidette Meadow on Bubbs Creek, and just where the John Muir Trail should go; and Mather Pass—well named—will become one of the best-known passes of the High Sierra, to commemorate the name of one who has done so much for all mountain-lovers of America.

THE UNKNOWN ALPS OF THE SALMON RIVER

BY FRANK A. WILLIAMSON

THE interior of northern California includes a portion of the Coast Range Mountains which is comparatively unknown, because of its present inaccessibility. A study of the Shasta quadrangle of the United States Geological Survey shows Mount Eddy, with an elevation of 9151 feet, at the head of the Trinity Mountains. Parallel to the Trinity Mountains, at a distance of about twenty miles to the west, are the Salmon Alps, and, connecting the two, a transverse ridge known as the Scott Mountains. The drainage between these mountain ridges forms the watershed of the Trinity River, with Coffee Creek, Swift Creek, and Stuarts Fork as main tributaries from the Salmon Alps on their eastern slope. The trend of the main ridges is north and south. The Salmon Alps on their western slope drain into the Salmon River, and their backbone forms part of the boundary between the Trinity and the Klamath national forests.

WE START FOR WEAVERVILLE, IN TRINITY COUNTY

The most convenient railroad station to reach this alpine country is Redding, Shasta County, on the Southern Pacific Railroad. From Redding a fifty-five mile automobile ride over mountain roads brings us to Weaverville, in Trinity County. Leaving Redding by automobile at five in the evening, we travel along the macadamized State Highway to its present termination at Tower House on the road to Weaverville. The latter point is the county-seat of Trinity County, headquarters of the Trinity National Forest, and starting-point of hunting, fishing, and mountaineering expeditions into the rugged interior.

To reach Weaverville three roads are available from Tower House to Lewiston on the Trinity River. One road leads by way of French Gulch and Deadwood to Lewiston, and is known as the Tom Green Grade. Another road branches off one mile beyond Tower House. One of these branches, known as the Toll Road, leads directly to Lewiston; the other branch reaches Lewiston by way of Lowden's Ranch. The latter road, also known as the Buckhorn Grade, has

been chosen as the route of the State Highway to be extended in the near future from Tower House to Lowden's Ranch and on to Douglas City. Our choice is the Tom Green Grade, and we reach Weaverville by way of Lewiston and across Brown Mountain at eight in the evening, after three hours' travel from Redding.

A FRENCH DINNER IS SERVED

An unexpected treat in the way of a French dinner is served at the hotel, prepared by Louis Gaston, the chef, who through some freak of fate finds himself and his cuisine transplanted to Weaverville from the bay region.

The following morning, at Forest Service headquarters, we secure all available data and maps regarding the area to be entered, incidentally viewing some of the buildings and landmarks of early history, described so attractively in John Carr's book, "Pioneer Days in California."

In the meantime pack-animals previously arranged for are being loaded by the capable hands of John Quincy Adams, guide and packer, and his half-breed assistant, Joe. After the usual but unavailing protests of the animals the pack-train starts at last for Kenny Camp, twenty miles distant by automobile, twelve miles by pack-trail.

OLD BRUIN RIDES IN A TRUCK

Our party follow in machines, retracing our way up Brown Mountain toward Lewiston, then taking a branch road leading up Rush Creek toward Junkan's Ranch and Minersville. At the Rush Creek bridge a rather steep mountain grade branches off the main road and crosses the ridge to Kenny Camp, the starting-point of the pack-trail and the end of automobile travel. The road itself continues down into the cañon, and after crossing the Stuarts Fork of the Trinity River terminates at Goetze's Ranch (Adams' Ranch on old maps). Having been delayed by gasoline feed troubles, when we finally reach Kenny Camp we find the pack-train already encamped. We are told all about a bear, of which this country has an unusually large number, this particular bear creating a diversion by stampeding the pack-animals on the way over, thus adding to the pleasures of life for Mr. John Quincy Adams, guide and packer. Our mirth is great when we hear that old bruin was riding in an auto-truck and inside a cage, as part of a traveling circus bound for Minersville.

As it is too late to continue to Bridge Camp, we stay here till

morning. A clearing on a knoll a short distance up the trail is our choice for bedding-ground, as it offers a magnificent view of Castle Crag in the distance.

THE HIKE TO MORRIS MEADOWS

At daybreak we abandon our machines at Kenny Camp, not to hear or jump at the sound of an automobile horn for ten days. The pack-animals having been properly loaded, we start on our sixteen-mile hike to the head of the Stuarts Fork and Morris Meadows.

Crossing a low knoll to an abandoned mining-ditch serving as trail, we follow this ditch to within a mile of Bridge Camp, five miles up-stream. As we travel along the winding ditch, openings in the brush and timber growing on the cañon slope yield an occasional glimpse of Stuarts Fork with its turbulent cascades a thousand feet below us. Glancing down-stream we secure a vista of Goetze's Ranch with its green meadow and timbered mountain background.

Where the trail rounds a jutting spur after leaving the ditch, a bear hustles down hill and disappears in the manzanita and buck-brush, rolling over and over. Through the trees ahead of us we can see extensive fields of snow on glistening granite crags against a jagged skyline, holding forth the promise of cool days and cooler nights, after the semi-tropical summer temperatures of the Great Valley of California. At this point the trail drops zigzag down the cañon-side to the delight of those traveling by shank's mare, and the discomfiture of the mounted members of our party, who are forced to dismount and coax their animals on their hesitating way down-hill.

We ford the Stuarts Fork for Bridge Camp on the opposite bank, where we find the abandoned site of a construction camp, not in use since the days when the La Grange Mining Company battled against the forces of nature and the difficulties of high finance, and found the struggle too severe. An inverted steel syphon, now abandoned, crosses Stuarts Fork on a trussed bridge. Twisted and torn steel plates half an inch thick bear mute evidence of the destructive force of water when confined under pressure.

AN EIGHT-POINT BUCK SWIMS ACROSS THE STREAM

After a short breathing spell we continue along the banks of the stream, its murmuring cascades and mystic green pools sounding a persuasive refrain, calling to us to cast our trout-fly. A deer breaks



PLATE IV.

HENNESSY LAKES

A peak of shale rears itself against the distant ridges
Photo by Frank A. Williamson



"We climb the barren granite at the head of Willow Creek Divide"
Photo by Frank A. Williamson

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from the buckbrush at our side and swims across the stream, and we are able to count eight points. With the La Grange Flume high above us, we cross numerous tributaries, all adding their volume to that of Stuarts Fork. Crossing the flume, we finally approach the banks of Deer Creek, the last stream to ford and the main tributary of Stuarts Fork. The trail has been rising steadily, the pitch increasing for the final climb to Cold Spring, across Deer Creek and up—mostly up, as testified to by Joe, who is reloading a spilled pack in the trail ahead of us.

The waters of Cold Spring prove very refreshing after our final effort, and the cañon walls now open to a vista of Morris Meadows with its surrounding granite cliffs and glaciated domes. An occasional stately pine adds perspective to the view, and we can see the cedar trees of our camp-site near the head of the meadow. Whispering quaking aspens standing on a multicolored carpet of mountain flora add to the enchantment of this beauty-spot of nature.

The smell of frying bacon and the aroma of boiling coffee assail our nostrils and cause a surprising burst of speed. After satisfying the inner man, we yield to our impulse, and get busy with the fly-rod with gratifying results for our supper.

THE PROMISE OF A NEW TRAIL

Early the next morning we start for the lakes at the head of Stuarts Fork, six miles away, by following the trail from the head of Morris Meadows. On the northern slope castellated granite crags of the Salmon Alps penetrate the detritus of an overlying shale cap forming the saddle of the Hennessy Lakes Divide. Across the stream, now tumbling over a series of small cataracts, glistening domes of glaciated granite drain the melting snows of Sawtooth Mountain. We pass Portuguese Camp with its clump of pine trees and find a party of Forest Service men at breakfast. We secure their promise to start a trail from this point to the summit of the divide, separating the Stuarts Fork from Hennessy Lakes on the Salmon River side, our main objective, to be ascended later in the week.

THE UPPER LAKE OF STUARTS FORK, A GLEAMING JEWEL OF TURQUOISE AND EMERALD

After a scramble through the brush we reach the lower of the Stuarts Fork lakes with its towering crags and gigantic boulders. Relics of the activities of the La Grange Mining Company are here evident.

Continuing around the lake we make the ascent to the upper lake, where we find a gleaming jewel of turquoise and emerald in a setting of grotesque granite pinnacles. Patches of melting snow send their rainbow-colored spray down precipitous walls. A trout breaks the smooth surface of the lake by leaping after its prey, leaving ever-widening circles to tell its whereabouts. We assemble our rods and enjoy a day's sport with the trout-fly, completing our catch on the lower lake. We drop from an elevation of sixty-five hundred feet at the upper lake to Morris Meadows at forty-five hundred feet, arriving at camp about dusk.

CYCLOPEAN GRANITE CRAGS OF THE SALMON ALPS

After a day's rest we make for the Salmon Alps at the head of Willow Creek, a tributary of Deer Creek. The trail leaves the lower end of Morris Meadows and crosses the timbered ridge separating Deer Creek from Stuarts Fork. Following the sloping bank of Deer Creek up-stream to its junction with Willow Creek, we ascend the latter to the Bailey Mine, a quartz-gold prospect. After a short rest we climb the barren granite to the top of the divide, with an elevation of seventy-five hundred feet.

Approaching sunset casts the entire mountainscape into strong relief, making a wonderful display of its extremely rugged character. We leave our vantage-point with great reluctance to retrace our way toward camp, arriving after dark.

MYSTERIOUS HENNESSY LAKES

The trail-builders of the Forest Service advise us on the following day that the new trail to the Hennessy Lakes Divide will be cleared as far as can be done this year, bluffs of shale preventing further progress without blasting.

The more venturesome of our party start the following morning for Portuguese Camp to attempt the ascent with saddle-animals. After a short distance the trail becomes too dangerous to continue farther, and we follow our packer's suggestion to finish the climb "afoot-back."

The ever-increasing ruggedness demands our best efforts and frequent rests enable us to enjoy the view and examine the domelike structure of the burnished granite below Sawtooth Mountain on the opposite side.

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foothold is afforded by the loose shale. An occasional spire of granite penetrates the mass of detritus, forming a foreground for the glittering lakes of Stuarts Fork down below. After a boost to those of our party who show signs of weakening, we scale the rim-rock and top the divide at an elevation of eight thousand feet, bringing up against a deep snow-bank. An enchanting panorama of rugged and picturesque scenery surrounds us on all sides. The three Hennessy Lakes, unknown and unmapped, are spread at our feet. The emerald green of their waters at the shore changes to a translucent deep blue at greater depths, while an ice floe provides a contrast of dazzling white. Clumps of evergreen pines relieve the startling brightness of snow-spotted granite, with its bear-wallows filled with melted snow-water of an eery green. A peak of reddish-brown shale in the background rears itself against the distant ridges forming the valley of the Salmon River.

LAKES TO BE STOCKED WITH TROUT

There is every indication that the shores of Hennessy Lakes have never been trod by human foot until quite recently. Their waters drain into a tributary of the South Fork of the Salmon River over a cataract making access from that side very difficult, if not impossible, for man and fish; hence, no trout are found in these lakes, although the entire region abounds with game and fish. It is planned to stock these lakes as soon as the trail now started by the United States Forest Service is completed.

AN ENCHANTING PANORAMA

Following the divide we get a view of Thompson Peak with its perpetual snow and ice-field, forming a pleasing background for the upper of the Stuarts Fork lakes. We also get a glimpse of another smaller lake on a granite shelf above it, heretofore invisible.

Back of Sawtooth Mountain we can see through a filmy haze of blue the checkered outline of the upper Sacramento Valley with its prolific orchards and olive groves and fertile grain- and rice-fields.

The entire panorama of serrated granite crags, dazzling snow- and ice-fields, and translucent sapphire lakes is awe-inspiring in the extreme, and suggests to the imagination the cataclysmic forces which created this wonderland.

THE LAKE OF THE FALLEN MOON

BY FRANK ERNEST HILL



ALL day the thundering of water fills
That throat of rock beneath the peaks. All day
The pines hear, and the trail that wears a way
Between the snows of lonely granite hills.

Rarely, in gold of dying afternoons,
Bronzed riders driving mules from grass to grass
Peer up the booming cañon as they pass,
And see a glitter like a fallen moon's

Far off, between the dark of woven trees.
Some say that there white chains of water fall
Down a sheer thousand feet of mountain wall,
Smiting a lake of black-brimmed mysteries

To restless light. And men might track the gleam
From ledge to ledge, and reach the cañon floor,
And sprawl in misted ferns beneath the roar
And monstrous magic foaming of the stream. . . .

They gaze and gaze, but it is far to go
Till shale and summit die in meadow flowers;
There is a tyranny of jealous hours
Denies them beauty that they yearn to know.

All day the thundering water shakes the pines
Tossing in foam against the granite wall;
Rare passing riders linger at its call
And search the woven branches where it shines;

Always they gaze and wonder, always pass,
Driving beneath the peaks from grass to grass.



CORNER OF HENNESSY LAKES
Photo by Frank A. Williamson



ALONG THE BACKBONE OF THE WILLOW CREEK DIVIDE
Photo by Frank A. Williamson

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FIRST CROSSING OF THE SIERRA NEVADA: JEDEDIAH
SMITH'S TRIP FROM CALIFORNIA TO
SALT LAKE IN 1827

BY C. HART MERRIAM

THE first white man known to have crossed the Sierra Nevada was the indomitable fur-hunter, Jedediah Smith, who in the spring of 1827 succeeded in breaking through the snowy barrier that covered the more elevated parts of the range.

Before his time, and to a limited extent since, Indians of several tribes were in the habit of crossing the summit from one side to the other, chiefly for purposes of hunting or trading; and in the very long ago, colonies of *Monache* from Owens Valley pressed through the lofty passes and established themselves in some of the mountain valleys of the west slope, where they have developed dialectic differences and have taken on independent tribal names. Such are the *Nim* of North Fork Joaquin, the *Holkoma* of the Pine Ridge and Sycamore Creek region (a little north of Kings River), the *Emtimbitch* of upper Mill Creek near Dunlap, the *Wuksache* of Eshom Valley, and the *Padoosha* of Kaweah River in the neighborhood of Three Rivers.

Farther north, in the middle Sierra region, the Mono Lake *Kootsa-be dik-kah* (a branch of the Northern *Piute*) have long made a practice of climbing Bloody Cañon and Mono Pass in order to visit Tuolumne Meadows for hunting and fishing, and not infrequently descended the west slope as far as Yosemite Valley to obtain acorns and to trade with the *Muwa* Indians of that region, while contrawise, the Yosemite Indians sometimes visited Mono Lake. Still farther north the *Wahshoo* of Antelope, Carson, and Long valleys were in the habit of visiting the headwaters of streams that flow westerly to the Great Valley of California, and the northern *Midoo* of the west side sometimes visited the east slope in the Honey Lake region and elsewhere.

The Spaniards and Mexicans, who had entered California from the south and held possession during the early part of the last century, played terrible havoc with the Indians of the lowlands, but

apparently had no appetite for high places and are not known to have ventured into the deep fastnesses of the lofty Sierra.

Hence, when in the early part of 1827 Jedediah Smith, who had come into California by way of the Mohave Desert, wished to cross over the mountains from the San Joaquin Valley in order to join his partners near Great Salt Lake, he apparently had no information as to the impenetrability of the range at that season of the year. It is not surprising, therefore, that in his first attempt to force a passage, which seems to have been in the month of February, he lost five horses in the deep snows and was forced to return. He then worked northward along the west flank of the Sierra (which he named Mount Joseph), and during the latter part of May succeeded in crossing, and twenty days later reached the southwestern corner of Salt Lake.

After joining his partners and before setting out on his return to California, he wrote an important letter to General William Clark, then Superintendent of Indian Affairs, but previously the associate of Meriwether Lewis on the famous Lewis and Clark Expedition to the northwest coast in 1804 to 1806. This letter, which has become of great historic value, was dated "Little Lake of Bear River, July 12th, 1827." In it he tells of his route over the unexplored deserts between Salt Lake and southern California, and also, though much too briefly, of his efforts to cross the Sierra.

The letter, particularly the latter part, was hurried by the departure of the party that carried it to St. Louis, for at the end he says: "The company are now starting; therefore must close this communication."

This probably accounts for his failure to mention that the two attempts to cross the snowclad Sierra were separated in time by an interval of apparently about three months, during which he had moved his party northward from Kings River to American River—a distance of nearly two hundred miles, and at least three hundred as the party would naturally travel.

That these two attempts *were made along widely separated routes* appears to have been overlooked by authors, and therefore requires support. That the first attempt was made on Kings River seems also to have escaped notice, though proved by his own words, for he says: "On my arrival at a River which I named the *Wim-mel-che* (named after a Tribe of Indians who reside on it of that name) I found a

few Beaver, & Elk, Deer and Antelope in abundance. I here made a small hunt, and attempted to take my party across the [mountains] which I before mentioned, & which I called *Mount Joseph*, to come on and join my partners at the Great Salt Lake.—I found the snow so deep on Mount Joseph that I could not cross my horses, five of which starved to death. I was compelled therefore to return to the Valley which I had left. And there leaving my party, I started with two men . . . on the 20th of May & succeeded in crossing it in 8 days."

The *Wim-mel-che* Indians lived on Kings River—not north of it on the Stanislaus, as interpreted by Dale.* So there would seem to be no room for question that his first endeavor to cross the mountains was made in the immediate neighborhood of Kings River. No wonder that he did not succeed, as the passes in this part of the High Sierra are not open before midsummer.

The next point of importance relates to the evidence that between his first and second attempts he had moved far to the northward along the western foothills of the Sierra—a distance of nearly two hundred miles. Fortunately the evidence of this is ample, consisting of both maps and printed records that are not open to question.

Gallatin's "Map of the Indian Tribes of North America," published in 1836, has a dotted line, labeled "J. B. Smith's route 1827," crossing the Sierra in the American River region; and the same is true, except that the lettering is omitted, in the revised edition of 1848; and Wilkes' map of "Upper California," 1841, has a line captioned "Smith's Track," starting from the east base of the Sierra in the Lake Tahoe region and crossing the deserts to Salt Lake—the three agreeing essentially in the location of the route, as would be expected from the well-known fact that both Gallatin and Wilkes had been given the benefit of Smith's explorations.

Turning now from the evidence of maps to other evidence, it appears that Smith on May 19, 1827—the day before setting out to cross the Sierra—sent a letter to Padre Duran† at Mission San José

* Dale states that the "*Wimilche*" Indians formerly lived north of Kings River, and adds, "The stream which Smith reached and which he named from the tribe dwelling on it, I take to be the Stanislaus."—Dale: *The Ashley-Smith Explorations*, 1918, pp. 191-192, footnote.

In this Dale was clearly in error. The "*Wimilche*" (or *Wimelche*) Indians lived on Kings River, not in the Stanislaus region, which in an air-line is about one hundred miles north of the northern limit of their territory.

† Smith's letter to Padre Duran was published by Edmund Randolph in his *Address on the History of California*, 1860, pp. 54-55, and by Dale in his *Ashley-Smith Explorations*, 1918, p. 232.

—implying that he was at no very great distance. (Mission San José is in an air-line only ninety miles from Smith's camp on American River.) Had he been in the Kings River region, he would naturally have written to one of the more southern missions.

Albert Gallatin in his "Synopsis of the Indian Tribes," published in 1836 in volume 2 of the Transactions of the American Antiquarian Society, states that he had received from General Ashley (Jedediah Smith's senior partner) "a manuscript map, accompanied with numerous explanatory notes, the materials for which consist of various journeys and explorations by some of our enterprising traders and hunters" (p. 140). On the next page he states that the discoveries south and west of Great Salt Lake (which he calls "Lake Timpanogo") belong principally to J. S. Smith. Continuing, he writes: "J. S. Smith descended the Rio Colorado of California, in the year 1826, as far south as the thirty-fifth degree of north latitude. Proceeding thence westwardly, he reached the Spanish Missions of San Pedro and San Diego near the Pacific. The ensuing year, he visited Monterey and St. Francisco; ascended the river Buenaventura some distance, and recrossed the Californian chain of mountains, called there Mount Joseph, in about the thirty-ninth degree of latitude. He thence proceeded north of west [obvious error for *east*], and reached the southwestern extremity of Lake Timpanogo. The eastern foot of the Californian chain, where he recrossed it, is about one hundred and eighty miles from the Pacific."

This information, from the highest authority, and based on Smith's own record as transmitted by his partner, General Ashley, should of itself suffice to settle the general location of the route. But it seems to have been overlooked by most of the authors who have written on Smith.*

Dale read it, but was curiously confused, failing to see that Gallatin's use of the expression "north of west" was a slip of the pen for "north of *east*," and accusing him of inaccuracy both in his map and his description of the route, whereas, excepting for this very common slip, Gallatin's description is correct.

Dale's weakness in the local geography of the region is further shown by his misidentification of the non-mythical part of the

* Thus in attempting to locate his crossing of the Sierra, Chittenden puts him "in the vicinity of the headwaters of the San Joaquin and Merced" (*Am. Fur Trade of the Far West*, 1902, vol. 1, p. 284); Richman on the Moquelumne (*California under Spain and Mexico*, map, 1911); Dale on the Stanislaus (*The Ashley-Smith Explorations*, 1918, p. 192).



PLATE IX.

CENTER PEAK
Photo by C. O. Schneider



BULLFROG LAKE
Photo by Walter L. Huber

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Buenaventura River as American Fork instead of Sacramento River (page 193, footnote).

But this by no means concludes the evidence, for an article in the *San Francisco Times* of June 14, 1867, written to correct certain current errors as to Smith's movements, states that on his return trip to Salt Lake in 1827 he left his party on American Fork.*

Furthermore, we have the authority of J. M. Guinn for the positive statement that Smith, before returning to Salt Lake, had established camp near the place now known as Folsom,† which is on the south bank of American River in the edge of the foothills about twenty miles east of Sacramento. This was corroborated, so far as American River is concerned, by J. J. Warner in his "Reminiscences of Early California."‡

It seems fair to assume that Guinn would not have been so specific in locating Smith's camp at Folsom had he not possessed authoritative information on this point.

In view of the evidence here assembled it may be accepted as an established fact that Smith crossed the Sierra in the neighborhood of American River. But whether he chose the north or the south side is not of record. However, since an explorer of Smith's experience would not have made his second attempt without a preliminary examination of the country, and since the route on the north is far less difficult than that on the south and is the one since chosen, not only by the railroad, but also by the State and Lincoln highways, I infer that he laid his course on that side, namely, along the ridge between American River and the Yuba.

NOTE.—Smith's letter to General William Clark, from which the quotations in the present article are taken, is preserved in the archives of the Office of Indian Affairs at Washington, to which office, through the courtesy of Mr. C. T. Hauke, Chief Clerk, I am indebted for a very perfect photostat copy. It is written in a remarkably clear hand and is dated "Little Lake of Bear River, July 12th, 1827"—thus antedating by five days the copy published by Dale in "The Ashley-Smith Explorations" (pp. 186-194, 1918). I have not seen the original of the copy published by Dale, nor the *Missouri Republican* of October 11, 1827, in which it was first printed, but Dale's reprint differs in numerous small details from the original in the Indian Office.—C. H. M.

* Bancroft (*Hist. Calif.*, 1886, vol. iii, p. 153, footnote).

† Guinn, J. M. (*Hist. Soc. So. Calif.*, 1896, vol. iii, part 4, p. 48).

‡ Warner, J. J. (*Hist. Soc. So. Calif.*, 1906, vol. vii, p. 181).

PLACE NAMES OF THE HIGH SIERRA

COMPILED BY FRANCIS P. FARQUHAR

IN compiling the following memoranda on the origin and significance of place names in the Sierra Nevada I have endeavored to reach the most authentic sources of information. Whenever practicable, the naming of a place has been described in the words of the man who named it. The references to publications given in parentheses at the end of abstracts and quotations are made as specific as possible. References to persons are intended to indicate the source of information. This has been obtained by correspondence, by personal visits, and from unpublished notes or letters. I can only express the hope that I have avoided misquoting anyone.

Fortunately many of the men who have taken leading parts in the exploration and mapping of the Sierra are still active, and information can be secured from them at first hand. Foremost among these is Professor Joseph N. Le Conte, of the University of California. For over thirty years he has explored the High Sierra, climbing its peaks, finding new passes, and mapping the topography. The first scientifically prepared maps of a large part of the range were made by him between 1893 and 1896. He took great care to ascertain all existing place names and to locate them upon the maps. These names were generally adopted by the United States Geological Survey topographers in their subsequent work. The benefit of Professor Le Conte's extensive knowledge has been invaluable in this compilation.

Others with whom I have consulted or corresponded from time to time during the past two or three years are Mr. Lil A. Winchell, Mr. Theodore S. Solomons, Colonel George W. Stewart, Colonel Harry C. Benson, General N. F. McClure, Mr. Walter Fry, Mr. Guy Hopping, Mr. Jesse B. Agnew, Mr. W. A. Chalfant, Mr. James Clay, and the late George R. Davis. I regret that I have not had the time or the opportunity of consulting a number of other persons whom I know to be possessed of first-hand information.

The published sources that may be considered authoritative are comparatively few. Chief among these are the volumes of the

SIERRA CLUB BULLETIN, the publications of the California State Geological Survey under J. D. Whitney, the historical and descriptive works of L. H. Bunnell and J. M. Hutchings, occasional references in the writings of John Muir, and the rare and remarkable pamphlet entitled "A Guide to the Grand and Sublime Scenery of the Sierra Nevada in the Region about Mount Whitney," published by W. W. Elliott & Co. in 1883. For Indian names I have relied upon the publications of C. Hart Merriam and A. L. Kroeber.

Mr. Walter L. Huber and Mr. Ansel F. Hall have procured information on a number of names and have assisted in other ways.

Some limits must be set to a work of this character, and I have not attempted to cover the entire Sierra or include all names in the selected area. The names chosen are with few exceptions taken from the United States Geological Survey topographic maps within the boundaries of the following quadrangles: Dardanelles, Bridgeport, Yosemite, Mount Lyell, Mount Morrison, Mariposa, Kaiser, Mount Goddard, Bishop, Tehipite, Mount Whitney, Kaweah, Olancha. The region north of the Tuolumne watershed has been omitted, not from lack of interest, but from practical necessity at the present time. Most of the names are of the High Sierra, but occasionally, because of peculiar interest, there are included some from lower altitudes.

In publishing this compilation many names have been omitted because the available information was not complete enough or definite enough. It is hoped that this preliminary list will arouse such interest in the subject as to bring forward a great deal more information. Additions and corrections are greatly desired and may be addressed to the compiler in care of the Sierra Club or to the editor of the BULLETIN.

There is space for only the first part of the alphabetical list in this number of the BULLETIN. It is planned to continue it in the next number.

Names in brackets at the right refer to the quadrangles of the United States Geological Survey upon which the places are located.

ABBOT, MOUNT (13,736)

[*Mount Goddard*]

Named by exploring party of the Whitney Survey in 1864 for Henry Larcom Abbot, captain of engineers, U. S. Army, at time peak was named; brevet major-general, 1865; author of several important engineering works; joint author with Captain A. A. Humphreys of the classic Report on the Physics and Hydraulics of the Mississippi River, 1861.

Erroneously spelled "Abbott" on many maps and in many references to the mountain.

First ascent by J. N. Le Conte, J. S. Hutchinson, Duncan McDuffie, July 13, 1908. (S.C.B., 1909, VII:1, p. 13.)

ACKER PEAK (10,918) [Dardanelles]

William Bertrand Acker, connected with the Department of the Interior since 1880; assistant attorney since 1908. For many years had charge of all national park matters in the department.

AGASSIZ NEEDLE (13,882) [Mount Goddard]

Named by Lil A. Winchell in 1879 for Professor Louis Agassiz, of Harvard University, eminent scientist. (L. A. Winchell.)

AGNEW MEADOW, PASS, LAKE [Mount Lyell]

Presumably for Theodore C. Agnew, a miner, who claimed land in the vicinity.

AHWAHNEE [Yosemite]

"Village on Black Oak Flat, extending from site of Galen Clark's grave easterly to Yo-watch-ke [at mouth of Indian Cañon]. As in the case of most of the villages, the village name was applied also to a definite tract of land belonging to it. . . . This being the largest tract of open level ground in the valley, the name Ah-wah-ne came to be applied by outside Indians to the whole valley." (C. Hart Merriam: *Indian Village and Camp Sites in Yosemite Valley*, S.C.B., 1917, x:2, p. 205. See, also, Kroeber: *California Place Names of Indian Origin*, 1916, p. 34.)

ALGER LAKE [Mount Lyell]

John Alger, a packer for troops in Yosemite National Park, 1895-96.

ALICE, MOUNT [Bishop]

Name changed to Temple Crag by National Board of Geographic Names.

AMPHITHEATRE LAKE [Mount Goddard]

Named by J. N. Le Conte in 1902. (J. N. Le Conte.)

ARNDT LAKE [Dardanelles]

Named by Lieutenant Harry C. Benson for First Sergeant Alvin Arndt, I troop, Fourth Cavalry, U. S. A., 1896. (H. C. Benson.)

ARROW PEAK (12,927) [Mount Whitney]

Named by Professor Bolton Coit Brown, 1895, when he made first ascent. (S.C.B., 1896, 1:8, pp. 305-309.)

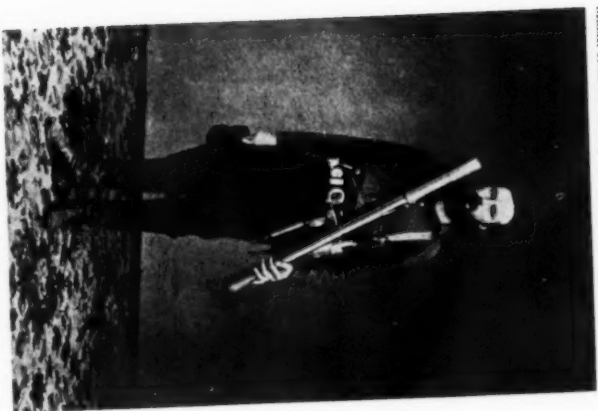
BACON MEADOW [Tehipite]

Fielding Bacon, a pioneer stock-man. (J. B. Agnew.)

BANNER PEAK (12,957) [Mount Lyell]

Named by Willard D. Johnson, topographer, U.S.G.S., in 1882, on account of cloud-banners streaming from summit. (J. N. Le Conte.)

First ascent by Johnson and Miller, 1882.



WILLIAM H. BREWER
Principal Assistant, California State
Geological Survey
Photo taken about 1864

PIONEER SURVEYORS OF THE HIGH SIERRA



CHARLES F. HOFFMANN
Topographer of the California State
Geological Survey
Photo taken in 1867



FRANK DUSY
Discoverer of Tehipite Valley
Photo taken in 1873



LIL A. WINCHELL
A pioneer of the Middle Fork of Kings River
Photo taken in 1884

PIONEER EXPLORERS OF THE HIGH SIERRA

BARNARD, MOUNT (14,003) [*Mount Whitney*]

Professor Barnard, of the astronomical observatory at Mount Hamilton.

Named by C. Mulholland and W. L. Hunter, who, with John and William Hunter, made the first ascent, September 25, 1892. (S.C.B., 1894, 1:3, pp. 85-89.)

BATTLE CREEK [*Kaweah*]

Named for a famous battle that took place on this creek between a burro and a mountain lion. There are several versions of the story. Guy Hopping, of Three Rivers, says the burro was owned by his family for many years after the battle, which he describes as follows:

George Cahoon owned the burro, named Barney. Barney came into camp one day bloody and torn. Men followed back along the bloody tracks and came to the scene of the battle. It was apparent that there had been a struggle, and it seemed most probable that the lion had been injured by kicks or biting and had crawled off to the stream where it was drowned in the high water, leaving the burro victorious.

BAXTER, MOUNT (13,118) [*Mount Whitney*]

Probably for John Baxter, a rancher in Owens Valley. (W. A. Chalfant.)

First ascent by George R. Davis, U.S.G.S., 1905. (J. N. Le Conte.)

BEAR CREEK [*Mount Goddard*]

Theodore S. Solomons says that this name was current among sheepmen when he first came there in 1894.

BEARUP LAKE [*Dardanelles*]

Named by Lieutenant N. F. McClure for a soldier in his detachment, 1894.

Pronounced "Beer-up." (N. F. McClure.)

BEARSKIN MEADOW [*Tehipite*]

Said to be named on account of a snow-patch that was the last to go in summer and which resembled a bearskin. (J. B. Agnew.)

BENCH LAKE [*Mount Whitney*]

Named by J. N. Le Conte in 1902. (J. N. Le Conte.)

BENNETT CREEK [*Kaweah*]

William F. Bennett, a stockman of the '70s. (Walter Fry.)

BENSON LAKE, PASS [*Dardanelles*]

Harry C. Benson, colonel, U. S. Army; on duty with troops in Yosemite National Park, as a lieutenant, from 1895 to 1897; later, as captain and major, was acting superintendent of Yosemite National Park, from 1905 to 1908; acting superintendent Yellowstone National Park, 1909 to 1910; also with troops in Sequoia National Park, 1891 and 1892. (H. C. Benson.)

BIG ARROYO [*Olancho*]

Known in early days as Crabtree Creek or Jenny Lind Cañon. (Elliott: *Guide to the Grand and Sublime Scenery of the Sierra Nevada*, 1883, p. 41.)

BIGELOW PEAK (10,510)

[Dardanelles]

John Bigelow, Jr., major Ninth Cavalry, U. S. Army, acting superintendent Yosemite National Park, 1904.

BISHOP PASS, CREEK

[Mount Goddard, Bishop]

Samuel Addison Bishop, an early settler of Owens Valley, 1863-1866. A native of Virginia, born 1825; came to California in 1849 and engaged in various activities about Fort Tejon; in 1866 a supervisor of Kern County; in 1868 constructed first street-car line in San Jose; died in San Jose, 1893. (Chalfant: *The Story of Inyo*, 1922, pp. 90-92.)

BLACK DIVIDE

[Mount Goddard]

Named by George R. Davis, U.S.G.S., when making Mount Goddard quadrangle, about 1907.

BLACK KAWEAH (13,752)

[Tehipite]

The most westerly of the Kaweah peaks, commonly known as the Black Kaweah. No name is shown on the U.S.G.S. maps. In 1881 F. H. Wales, W. B. Wallace, and J. W. A. Wright gave the name Mount Abert to this peak, viewing it from the summit of Kaweah Peak. It was named for Captain Wright's uncle, Colonel John J. Abert, one time chief of the U. S. Army Topographic Engineers. (Manuscript note by Wright in Joseph Le Conte's copy of Elliott: *Guide to the Grand and Sublime Scenery of the Sierra Nevada*, 1883.)

First ascent by Duncan McDuffie, J. S. Hutchinson, Onis Imus Brown, August 11, 1920. (S.C.B., 1921, XI:2, pp. 131-134.)

BLANEY MEADOWS

[Mount Goddard]

Lost Valley is the first and true name. It was known as early as 1870. Blaney later had a sheep-camp here every year. (L. A. Winchell.)

BLOODY CAÑON

[Mount Lyell]

"It is very steep and rough; the name is suggestive of the disagreeable effects of the sharp edges of the slates on the legs of the unfortunate animals driven over it." (Whitney Survey: *Geology*, 1865, p. 436.)

"It was known and traveled as a pass by wild animals and the Indians long before its discovery by white men in the gold year of 1858, as is shown by old trails which come together at the head of it. The name may have been suggested by the red color of the metamorphic slates in which the cañon abounds, or by the blood-stains on the rocks from unfortunate animals that were compelled to slide and shuffle over the sharp-angled boulders." (Muir: *My First Summer in the Sierra*, p. 289.)

BOND PASS

[Dardanelles]

Probably for Frank Bond, of the U. S. General Land Office, one of the Yosemite National Park Boundary Commission in 1904.

BOUNDARY HILL

[Yosemite]

One of the points of the boundary of the original grant of the Yosemite Valley by the Federal Government to the State of California as a state park, Act of June 30, 1864.

BRADLEY, MOUNT (13,780) [Mount Whitney]

Professor Cornelius Beach Bradley, of the University of California.

First ascent by Mr. and Mrs. Robert M. Price and J. C. Shinn, July 5, 1898. (S.C.B., 1899, xi:5, p. 273.)

BRANIGAN LAKE [Dardanelles]

Named by Lieutenant N. F. McClure for a soldier of his detachment while exploring the park in 1894. Branigan was killed in the Philippines. (N. F. McClure.)

BREEZE CREEK [Dardanelles, Yosemite]**BREEZE LAKE** [Mount Lyell]

William F. Breeze, of San Francisco, who assisted Lieutenant Benson in making map, 1896. (H. C. Benson.)

BREWER, MOUNT (13,577) [Mount Whitney]

William A. Brewer, professor of agriculture at Yale University, principal assistant of Whitney in California State Geological Survey, and chief of field party that explored Kings River Region in 1864.

Named by members of Brewer's party, 1864. (Whitney Survey: *Geology*, 1865, p. 378.)

First ascent by William A. Brewer and Charles F. Hoffmann, July 2, 1864. (Whitney Survey: *Geology*, 1865, p. 379. King: *Mountaineering in the Sierra Nevada*, 1872, pp. 52-56. S.C.B., 1922, xi:3, p. 252.)

BRIDALVEIL FALLS [Yosemite]

Although Hutchings says that he suggested the name on his first visit to Yosemite in 1855 (Hutchings: *In the Heart of the Sierras*, 1866, p. 89), it is said by Bunnell to have been named by Warren Baer, editor of the *Mariposa Democrat* (Bunnell: *Discovery of the Yosemite*, 1911, p. 212). This is corroborated by the following quotation from a reprint of an article in the *Mariposa Democrat* of August 5, 1856: "We make bold to call it Bridal Veil; and those who may have the felicity to witness the stream floating in the embrace of the morning breeze, will acknowledge the resemblance, and perhaps pardon the liberty we have taken in attempting to apply so poetical a name to this Queen of the Valley." (*Quarterly of the California Historical Society*, 1923, i:3, p. 277.)

Pohono, the Indian name, has been commented upon by Hutchings, Bunnell, Whitney (*Yosemite Guide Book*, 1870, p. 16), and many others.

Kroeber says: "Pohono Falls, in Yosemite Valley, appears to be of Miwok Indian origin. These Indians, however, do not recognize the often-quoted meaning 'evil wind,' and connect the word rather with Pohonichi, the Yokuts' name of a Miwok group in the vicinity, in which -chi is an ending denoting 'people.'" (Kroeber: *California Place Names of Indian Origin*, 1916, p. 55.)

BUBBS CREEK [Mount Whitney]

John Bubbs was one of a party of prospectors who crossed Kearsage Pass from Owens Valley in 1864. (S.C.B., 1918, x:3, p. 340.) These prospectors

are mentioned by Brewer's party of the Whitney Survey. (Whitney Survey: *Geology*, 1865, p. 394.)

CARDINAL MOUNTAIN (13,388), LAKE

[*Mount Whitney and Olancha*]

Named by George R. Davis, U.S.G.S., on account of brilliant coloring of the mountain summit—like the red cap of a cardinal. The lake was named from the mountain. (J. N. Le Conte.)

CARTRIDGE CREEK

[*Tehipite*]

There is a story that a man had a good shot at a deer here, but had "buck fever," and in his excitement pumped all the cartridges out of his rifle magazine; whereupon members of his party gave this name to the creek. (James Clay.)

CASCADE VALLEY

[*Mount Morrison*]

Name given by U.S.G.S. topographers. The meadow was originally named Peninsula Meadow by J. N. Le Conte and J. S. Hutchinson in 1908, because of a peninsula jutting into the stream. (J. N. Le Conte. S.C.B., 1909, VII:1, p. 7.)

CASE MOUNTAIN

[*Kaweah*]

Bill Case had a cabin at the head of Salt Creek, and used to run a team on this mountain for sledding shakes. His team was famous for its mixture of four different animals: a horse, a mule, a burro, and a steer. (Guy Hopping.)

CATHEDRAL PEAK (10,933)

[*Mount Lyell*]

"From a high ridge, crossed just before reaching this lake [Tenaya], we had a fine view of a very prominent exceedingly grand landmark through all the region, and to which the name of Cathedral Peak has been given." (Whitney Survey: *Geology*, 1865, p. 425.)

"No wonder the hills and groves were God's first temples, and the more they are cut down and hewn into cathedrals and churches, the farther off and dimmer seems the Lord himself. The same may be said of stone temples. Yonder, to the eastward of our camp grove, stands one of Nature's cathedrals, hewn from the living rock, almost conventional in form, about two thousand feet high, nobly adorned with spires and pinnacles, thrilling under floods of sunshine as if alive like a grove-temple, and well named 'Cathedral.'" (Muir: *My First Summer in the Sierra*, p. 196.)

John Muir climbed to the topmost spire, September 7, 1869. (Muir: *My First Summer in the Sierra*, p. 332.)

Theodore S. Solomons describes an ascent in 1897. (S.C.B., 1901, III:3, p. 236.)

CENTER PEAK (12,767)

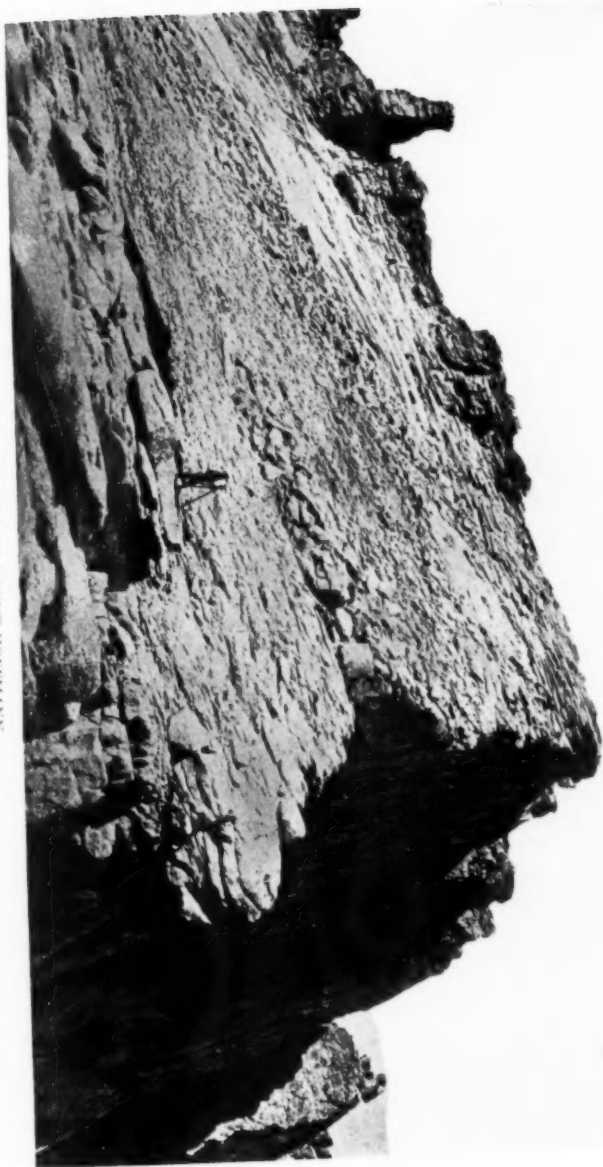
[*Mount Whitney*]

Named by C. B. Bradley and R. M. Price in 1896, at which time Professor Bradley made the first ascent. (S.C.B., 1899, II:5, p. 273.)

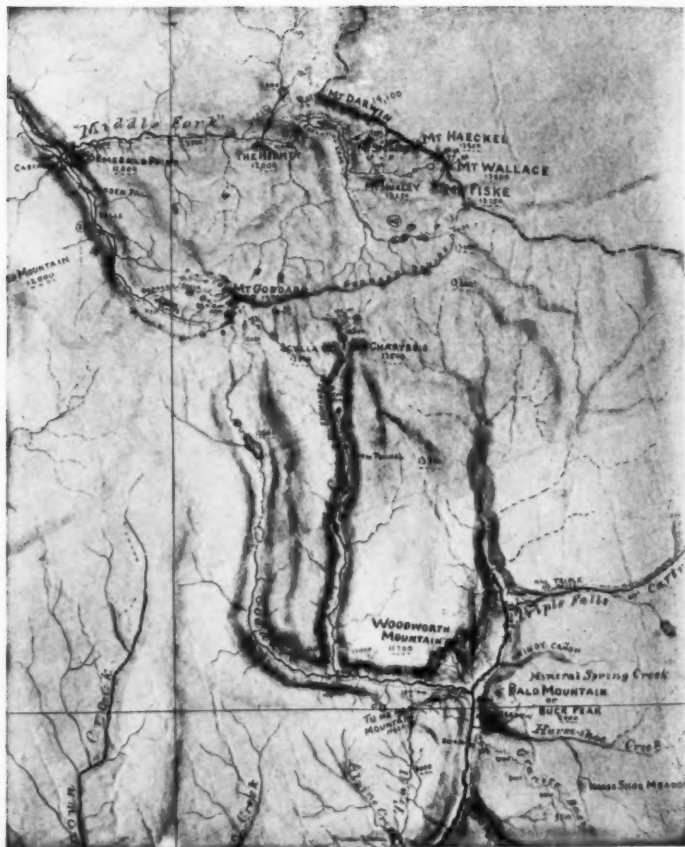
CHAGOOPAH PLATEAU, FALLS

[*Mount Whitney, Olancha*]

The falls were named by W. B. Wallace, J. W. A. Wright, and F. H. Wales,



SCIMIT OF MOUNT HOFFMAN
Showing Charles F. Hoffmann, of the California State Geological Survey, with his transit
Photo taken by W. Harris in 1867



DETAIL FROM A MAP OF THE HIGH SIERRA

(by Theodore S. Solomons, February, 1896)

Upon which the names of the Evolution Group and certain places in the vicinity of Mount Goddard first appeared

in 1881, for an old Piute chief. (*Mt. Whitney Club Journal*, 1902, 1, p. 11.)

The name is spelled "Sha-goo-pah" by Wallace and also in Elliott's "Guide to the Grand and Sublime Scenery of the Sierra Nevada" (1883), where it is said to be the Indian name of Mount Williamson (pp. 38-39).

Kroeber says the meaning is unknown, but the name is almost certainly a Mono word. (Kroeber: *California Place Names of Indian Origin*, 1916, p. 38.)

CHARYBDIS (12,935)

[*Mount Goddard*]

Named by Theodore S. Solomons in 1895, when with E. C. Bonner he descended from Mount Goddard to Simpson Meadow by way of Disappearing Creek and the Enchanted Gorge, passing between what he termed "Scylla and Charybdis." It was not his intention to attach the word "mount" or "peak." (T. S. Solomons.)

CHICUITO CREEK

[*Mount Lyell*]

From the Spanish diminutive, applied to a branch of the San Joaquin, Chicuito Joaquin, or Little Joaquin, contracted to Chicuito Creek.

CHITTENDEN PEAK (10,133)

[*Dardanelles*]

Hiram Martin Chittenden, captain, and later brigadier-general, Engineer Corps, U. S. Army; with two other commissioners, R. B. Marshall, of the U. S. Geological Survey, and Frank Bond, of the General Land Office, made a report in 1904 on revision of boundaries of Yosemite National Park, which was adopted by act of Congress, February 7, 1905.

Chittenden is best known for his history, "American Fur Trade in the Far West," and for his many years' connection with the Yellowstone National Park, where he rendered distinguished service in the construction of roads and bridges.

CLARK, MOUNT (11,506)

[*Mount Lyell*]

Galen Clark, first guardian of the Yosemite State Park, 1864, and reputed discoverer of Mariposa Grove of big trees. Born in New Hampshire, March 28, 1814; died March 24, 1910, in Yosemite Valley, where he is buried. (S.C.B., 1910, VII:4, pp. 215-220.)

"At the northeast extremity of the Merced group is the grand peak to which we first gave the name of the 'Obelisk,' from its peculiar shape, as seen from the region north of the Yosemite. It has, since then, been named Mount Clark, while the range to which it belongs is sometimes called the Obelisk Group, but, oftener, the Merced Group, because the branches of that river head around it." (Whitney: *Yosemite Guide Book*, 1870, p. 108.)

First ascent by Clarence King and James T. Gardner, July 12, 1866. (King: *Mountaineering in the Sierra Nevada*, 1872, pp. 197-205.)

CLOUDS REST (9,930)

[*Mount Lyell*]

"Because upon our first visit the party exploring the 'Little Yosemite' turned back and hastened to camp upon seeing the clouds rapidly settling down to rest upon that mountain, thereby indicating the snowstorm that soon followed." (Bunnell: *Discovery of the Yosemite*, 1911, p. 205.)

CLOUDY CAÑON[*Tehipite*]

This is the cañon of the east fork of Roaring River, erroneously labeled "Deadman Cañon" on many maps. (S.C.B., 1921, XI:2, p. 119.)

The name was probably given by sheepmen or cattlemen because the clouds that gather rapidly over the Sierra on summer days frequently make their first appearance at the head of this cañon.

CLOUGH CAVE[*Kaweah*]

Discovered by William Clough in 1885. He blasted a hole big enough to crawl through. He filed on it as a mineral claim, but the application lapsed. Clough died in the fall of 1917 on the Franklin Pass trail while trying to reach the lake in order to shut off the water from the power company's flume for the winter. (Guy Hopping.)

COCKSCOMB CREST[*Mount Lyell*]

Named by François E. Matthes, U.S.G.S., in 1919, on account of its appearance. (S.C.B., 1920, XI:1, p. 26.)

COLBY MEADOW[*Mount Goddard*]**COLBY MOUNTAIN (9,700)**[*Yosemite*]**COLBY PASS**[*Mount Whitney, Tehipite*]

William E. Colby, San Francisco attorney, president of the Sierra Club 1917-1919, and for many years its secretary.

The meadow on Evolution Creek was named by members of the U. S. Forest Service engaged in building the John Muir Trail in 1915.

The mountain, overlooking the Tuolumne Cañon, was named by R. B. Marshall, of the U.S.G.S.

The pass was named by a Sierra Club party, July 13, 1912, upon discovering it as a likely route for animals between the Kern and Roaring rivers. Colby was leader of that party and subsequently did much to explore approaches and encourage attempts at crossing. The first known crossing by saddle- and pack-animals was on August 5, 1920, by a party including Duncan McDuffie, James S. Hutchinson, Ernest McKee, and others. (S.C.B., 1921, XI:2, pp. 128-129.) There is evidence that the pass was used by sheepmen many years before. (S.C.B., 1900, III:2, p. 167.)

COLONY MEADOW, PEAK[*Tehipite*]

The Kaweah Co-operative Commonwealth Colony was established in this vicinity from 1885 to 1891.

CONNES, MOUNT (12,556)[*Mount Lyell*]

The mountain was named by the Whitney Survey in 1863.

"Mount Conness bears the name of a distinguished citizen of California, now a United States Senator, who deserves more than any other person, the credit of carrying the bill, organizing the Geological Survey of California, through the Legislature." Whitney: *Yosemite Guide Book*, 1870, p. 100.)

"I recognized the old familiar summit . . . and that firm peak with titan strength and brow so square and solid, it seems altogether natural we

should have named it for California's statesman, John Conness." (King: *Mountaineering in the Sierra Nevada*, 1872, p. 267.)

The members of the Whitney Survey were naturally appreciative of Senator Conness for helping their cause. Excepting for this mountain, however, his name has almost faded from history along with the names of other party politicians.

First ascent by Clarence King and James T. Gardner, 1863. (Whitney: *Yosemite Guide Book*, 1870, p. 103.)

CONVERSE BASIN

[*Tehipite*]

Once contained a very extensive grove of the finest big trees; now completely destroyed.

Charles Converse took up timberlands here in the '70s. He had come to California in 1849, and was in the vicinity of Millerton about 1852. He ran a ferry across the San Joaquin at what is now Friant until 1869. Built the first jail in Fresno County, and was the first person confined in it. (L. A. Winchell, George W. Stewart.)

CONVICT LAKE

[*Mount Morrison*]

A band of convicts escaped from the Nevada state penitentiary at Carson City, September 17, 1871, and went south to Owens Valley. On the morning of September 24, a posse, led by Robert Morrison, encountered some of the convicts near the head of what was then known as Monte Diablo Creek. Morrison was killed. The convicts escaped, but were captured a few days later and were lynched. The lake and creek were thenceforth called Convict. (Chalfant: *The Story of Inyo*, 1922, pp. 214-220.)

The Indian name of the lake was Wit-sa-nap, according to Mrs. A. A. Forbes, of Bishop. (S.C.B., 1913, ix:1, p. 55.)

COPPER CANON

[*Tehipite*]

This name appears on many maps as one of the branches of Roaring River, but is not correct. The west branch of Roaring River is properly called Deadman Cañon; the east branch, Cloudy Cañon. (S.C.B., 1921, xi:2, p. 119.)

COPPER CREEK

[*Tehipite*]

An old name for a creek that enters Kings River Cañon from the north. There are several outcroppings of copper in the vicinity, and a small copper mine east of the creek has been worked from time to time. (J. N. Le Conte.)

COYOTE CREEK, PASS

[*Olancha*]

The origin of the name Coyote is from the Aztec coyotl. (Kroeber: *California Place Names of Indian Origin*, 1916, p. 41.)

CRANE FLAT

[*Yosemite*]

"This name was suggested by the shrill and startling cry of some sand-hill cranes we surprised as they were resting on this elevated table." (Bunnell: *Discovery of the Yosemite*, 1911, p. 321.)

"It is often visited by blue cranes to rest and feed on their long journeys." (Muir: *My First Summer in the Sierra*, p. 122.)

CROWN MOUNTAIN

[Tehipite]

Named by Frank Dusy about 1870, on account of a crownlike cap of rocks. The creek, meadow, and valley were named from the mountain. (L. A. Winchell.)

DANA, MOUNT (13,050)

[Mount Lyell]

Named in 1863 by the Whitney Survey for James Dwight Dana, a leader among those who initiated the modern science of geology in America, and professor of geology at Yale University from 1850 to 1894. (Whitney: *Yosemite Guide Book*, 1870, p. 100.)

In 1889 J. N. Le Conte copied from a record that he found on the summit the following: "State Geological Survey, June 28, 1863. J. D. Whitney, W. H. Brewer, Charles F. Hoffman, ascended this mountain June 28th and again the 29th. We give the name of Mount Dana to it in honor of J. D. Dana, the most eminent American geologist. Approximate height 13,126 ft." (S.C.B., 1922, XI:3, p. 247.)

Although this is the first recorded ascent, it is possible that it had been climbed previously, as Whitney spoke of it as an easy trip for tourists. (Whitney Survey: *Geology*, 1865, p. 435.)

John Muir climbed Mount Dana in 1869. (Muir: *My First Summer in the Sierra*, p. 320.)

DARWIN, MOUNT (13,841)

[Mount Goddard]

Charles Robert Darwin, 1809-1882, author of "Origin of Species," "Descent of Man," etc.

Named in 1895 by Theodore S. Solomons as the highest summit of the "Evolution Group." Solomons and E. C. Bonner attempted the ascent, but did not reach the summit. (*Appalachia*, 1896, VIII:1, p. 50.)

First recorded ascent by E. C. Andrews, of the Geological Survey of New South Wales, and Willard D. Johnson, U.S.G.S., August 12, 1908. (S.C.B., 1922, XI:3, p. 288.) Perhaps this is the mountain ascended by John Muir in 1879 under the impression that it was the peak called Mount Humphreys on Hoffmann's map. (S.C.B., 1922, XI:3, p. 250.) A recent ascent is described in S.C.B., 1922, XI:3, pp. 286-289.

DAVIS MOUNTAIN (12,308)

[Mount Lyell]

Named in 1894 for Lieutenant Milton F. Davis, Fourth Cavalry, U. S. A., by Lieutenant N. F. McClure. (Shown on McClure's map dated February, 1895.)

Davis was with Captain A. E. Wood in 1891 with the first troops detailed to guard the newly created Yosemite National Park, and returned in 1892 and 1893. In his report for 1892 Captain Wood says: "In the performance of this duty (reconnoitering) I found the services of Second Lieutenant M. F. Davis, Fourth Cavalry, almost invaluable. He discovered an eye for topography of the country and displayed a talent in woodcraft that were of a high order." Stationed in Sequoia National Park in 1896 and prepared a map of the park and adjacent region of the Sierra; commissioned brigadier-general, U. S. Reserve, in 1922; now living at Cornwall-on-the-Hudson, N. Y.

The first ascent of Mount Davis was probably made by Davis himself.

DAYS NEEDLE

[Mount Whitney]

One of the pinnacles just south of Mount Whitney. Named for W. C. Day of Johns Hopkins University, one of the Langley party of 1881 engaged in solar observations on Mount Whitney. (Langley: *Solar Heat*, 1884, p. 36.)

DEADMAN CAÑON

[Tehipite]

The cañon of the west branch of Roaring River. The name has been incorrectly given on some maps to the east branch. (S.C.B., 1920, XI:2, p. 119.)

There is a shepherd's grave clearly marked at the lower end of the cañon, concerning which there are several legends.

DEERHORN MOUNTAIN (13,440, 13,275) [Mount Whitney]

Named in 1895 by J. N. Le Conte because of the resemblance of its double summit to two horns. (J. N. Le Conte.)

DELANEY CREEK

[Mount Lyell]

Delaney was the sheepman with whom John Muir made his first trip to the Sierra, visiting Tuolumne Meadows in 1869. (Muir: *My First Summer in the Sierra*, pp. 4, 288.)

DESOLATION LAKE

[Mount Goddard]

Named by J. N. Le Conte in 1898. (J. N. Le Conte.)

DEVILS BATHTUB

[Mount Goddard]

Named by George R. Davis, U.S.G.S., about 1907. (G. R. Davis.)

DEVILS CRAGS (12,612)

[Mount Goddard]

Named by J. N. Le Conte in 1906. (J. N. Le Conte.)

First ascent by Charles W. Michael, July 21, 1913. (S.C.B., 1914, IX:3, p. 188.)

DEVILS POSTPILE

[Mount Lyell]

"Some miles farther down stream near the place of crossing of the Mammoth Trail, there is a splendid specimen of columnar basalt, which was photographed many years ago by Mr. J. M. Hutchings while crossing the mountains. In every scenic freak the shepherd recognizes the handiwork of his Satanic majesty. This formation is therefore known to local fame as the Devil's Woodpile." (Theodore S. Solomons in S.C.B., 1894, I:3, p. 74.)

Established as a national monument by President Taft on July 6, 1911. (S.C.B., 1912, VIII:3, pp. 170-173, 226-227.)

DINKEY CREEK

[Kaiser]

Named for Frank Dusy's little dog, Dinkey, that was torn by a bear in that neighborhood. (Elliott: *Guide to the Grand and Sublime Scenery of the Sierra Nevada*, 1883, p. 8.)

John Muir mentions the Dinkey Grove of sequoias on "Dinkey Creek, one of the northmost tributaries of Kings River," in *Harpers Magazine*, November, 1878. Continuing, Muir says that this grove was discovered "several years ago by a couple of hunters who were in pursuit of a wounded bear; but because of its remoteness and inaccessibility it is known only to a few mountaineers."

DISAPPEARING CREEK

[Mount Goddard]

Named by Theodore S. Solomons in 1895, when he and E. C. Bonner came down the cañon of this creek from Mount Goddard on their way to Simpson Meadow. (T. S. Solomons.)

DOLLAR LAKE

[Tehipite]

Not the right name. Long before this name was affixed this lake was known as Big Bird Lake. A big rock atop of the highest peak of the southwest wall of Deadman Cañon looks like a big bird perched above the lake. (Ansel F. Hall.)

DONOHUE PASS, PEAK

The pass was named in 1895 by Lieutenant N. F. McClure for a sergeant in his detachment. (N. F. McClure.)

DORÉ PASS, CLIFF

[Mount Lyell]

Named by Israel C. Russell, U.S.G.S., about 1882, for Gustave Doré, the celebrated French artist.

"The bottom of Lundy Cañon, above the point where Lake Cañon joins it, is irregular and is formed of alternate scarps and terraces all the way to the head of the gorge, where a scarp of grander proportions than those below crosses the trough and forms a wall of rock more than a thousand feet high. This rocky wall, together with the cliffs forming the eastern side of the gorge as far as Lake Cañon, has been named, in honor of the great French artist, the Doré Cliffs." (Russell: *Quaternary History of Mono Valley*. In U.S.G.S. 8th Annual Report, 1886-87, pp. 332-333.)

DOROTHY LAKE

[Dardanelles]

Dorothy Forsyth, daughter of Major William W. Forsyth, Sixth Cavalry, U. S. A., acting superintendent of Yosemite National Park, 1909-1912.

DORST CREEK

[Tehipite]

J. H. Dorst, captain, Fourth Cavalry, U. S. A., the first acting superintendent of Sequoia and General Grant national parks, 1891-1892.

DUMBELL LAKE

[Mount Goddard]

Named in 1902 by J. N. Le Conte on account of its shape. (J. N. Le Conte.)

DUSY BRANCH, MEADOW

[Mount Goddard]

Frank Dusy, a pioneer stockman of Fresno County. He was in the region of the North Fork of Kings River as early as 1869, and in that year discovered Tehipite Valley. In 1877 Dusy, with P. F. Peck, explored the Middle Fork of Kings River as far as the Palisades.

Dusy was the only stockman of his time who seemed to take an interest in the mountain region for other reasons than stock feed. He was a man of superior intelligence, high character, and wide experience. He took the first photographs of Tehipite, carrying a bulky portrait camera, with studio tripod, wet plates, and chemicals. (L. A. Winchell.)

Lil A. Winchell in 1879 gave Dusy's name to the branch of the Middle Fork of Kings River entering from the northeast.

EAGLE PEAK (7,773)

[Yosemite]

"This was so named from its being such a favorite resort of this famous bird of prey. I once saw seven eagles here at play; they would skim out upon the air, one following the other, and then swoop perpendicularly down for a thousand or more feet, and thence sail out again horizontally upon the air with such graceful nonchalance that one almost envied them their apparent gratification." (Hutchings: *In the Heart of the Sierras*, 1886, p. 479.)

EAST LAKE

[Mount Whitney]

Named for Tom East, of Tulare County.

EDITH LAKE

[Dardanelles]

Named in 1910 by Major Forsyth, acting superintendent of Yosemite National Park, for Edith Nance, daughter of his friend, Colonel Nance, U. S. Army.

EHRNBECK PEAK (11,194)

[Dardanelles]

Lieutenant A. R. Ehrnbeck, Engineer Corps, U. S. Army, who made a report in 1909 on a comprehensive road and trail project for Yosemite National Park.

ELEANOR, LAKE, CREEK

[Yosemite]

Eleanor Whitney, daughter of Josiah Dwight Whitney, head of Geological Survey of California. Named about 1863.

EL CAPITAN

[Yosemite]

"The native Indian name . . . is To-to-kon oo-lah, from To-to-kon, the sandhill crane, a chief of the First People." (C. Hart Merriam, in S.C.B., 1917, x:2, p. 206.)

The Indian name appears in various forms of spelling and accent through Yosemite literature, and is given various interpretations. (Hutchings: *In the Heart of the Sierras*, 1886, p. 396. Hutchings: *Scenes of Wonder and Curiosity in California*, 1862, pp. 103-106. Whitney: *Yosemite Guide Book*, 1870, p. 16. Bertha H. Smith: *Yosemite Legends*, 1904, pp. 47-54. Merriam: *The Dawn of the World*, 1910, p. 35.)

"In adopting the Spanish interpretation, 'El Capitan,' for Tote-ack-ahnoolah, we pleased our mission interpreters and conferred upon the majestic cliff a name corresponding to its dignity." (Bunnell: *Discovery of the Yosemite*, 1911, p. 215.)

ELIZABETH PASS

[Tehipite]

Stewart Edward White and Mrs. White crossed from the head of Deadman Cañon in the Roaring River country to the Middle Fork of Kaweah River and named the pass for Mrs. White. (White: *The Pass*, 1912, pp. 157-158.) The account of their expedition was first published in *Outing Magazine*, March, April, May, 1906.

This pass is not often used, as Turtle Pass near by is better. On some maps the name Elizabeth Pass appears erroneously at the site of Turtle Pass.

ELLERY LAKE

[Mount Lyell]

N. Ellery, State Engineer in charge of construction of the State Highway from Mono Lake via Leevining Cañon to Tioga Pass in 1909.

ELLIS MEADOW

[Tehipite]

S. L. N. Ellis, for many years head ranger of the U. S. Forest Service in the Kings River region.

EL PORTAL

[Yosemite]

Spanish for "The Gateway." Name given by officials of Yosemite Valley Railroad.

EMERALD PEAK (12,517)

[Mount Goddard]

Named by Theodore S. Solomons, in 1895, on account of its color. There is a band of greenish slate in this section of the Sierra. (*Appalachia*, 1896, VIII:1, p. 46.)

EMERIC LAKE, CREEK

[Mount Lyell]

Named by Lieutenant N. F. McClure, U. S. A., in 1895, for H. E. Emeric, president of the Board of Fish Commissioners, State of California. (N. F. McClure.)

ENCHANTED GORGE

[Mount Goddard]

Name given by Theodore S. Solomons, in 1895, to the gorge between Scylla and Charybdis on Disappearing Creek. (*Appalachia*, 1896, VIII:1, p. 55.)

ERICSSON, MOUNT (13,625)

[Mount Whitney]

Captain John Ericsson, inventor of the Monitor. Named by Professor and Mrs. Bolton Coit Brown, in 1896, when they made the first ascent.

"As it seemed that we were the first to make this ascent, we built a monument and left a record, naming it in honor of Capt. John Ericsson, and in recognition of its extremely craggy character, 'Crag Ericsson.'" (S.C.B., 1897, II:2, p. 92.)

ESHOM VALLEY, CREEK

[Tehipite]

Named for a man named Eshom, who was one of the first residents of the region. Eshom Valley was a camping-place of Indians. The Indian name, Cha-ha-du, means "Place where clover grows the year round." (George W. Stewart.)

EVELYN LAKE

[Kaweah]

Evelyn Clough, sister of William O. Clough, who discovered Clough's cave, married George Cahoon. By subsequent marriages she was Mrs. Busby, Mrs. Mentier, Mrs. Long. (Ansel F. Hall.)

EVELYN LAKE

[Mount Lyell]

Named for a daughter of Major Forsyth, acting superintendent of Yosemite National Park, 1909-1912.

EVOLUTION LAKE, CREEK, PEAKS [Mount Goddard]

Theodore S. Solomons, in July, 1895, named the peaks at the head of what was then called "The Middle Fork of the South Fork of the San Joaquin River" for Darwin, Wallace, Huxley, Haeckel, Spencer, and Fiske—the "Evolution" group of philosophers. He called the lake at the foot of Mount Darwin, Evolution Lake. The name was naturally extended to the creek, and the mountains are often spoken of as the Evolution group of peaks. (T. S. Solomons.)

FERNANDEZ PASS [Mount Lyell]

First Sergeant Joseph Fernandez, Troop K, Fourth Cavalry, U. S. A., was with Lieutenant Benson in exploration of headwaters of the Merced, 1895-1897. He was also in the Yosemite National Park later, when Benson, as captain and major, was acting superintendent. In his report for 1905 (p. 12) Captain Benson specially commends Sergeant Fernandez for assistance in planting fish. (H. C. Benson.)

FIN DOME (11,627) [Mount Whitney]

Named by Bolton Coit Brown, in 1899, when he explored the lake basin in its vicinity. He likened the ridge between this basin and Rae Lake to a sea-monster, which he showed on a sketch-map with "The Head," "The Fin," and "The Tail." (S.C.B., 1900, III:2, p. 136.)

FISH CREEK, VALLEY [Mount Lyell]

"Apropos of the sheepmen, I afterward learned that such of the fraternity as had visited the cañon were less strongly impressed by its scenic features than by the abundance of trout; hence they gave the stream the name Fish Creek, ignoring the cañon completely, except (possibly) to recognize it as forming the banks of the creek." (Theodore S. Solomons, in S.C.B., 1894, I:3, p. 79.)

FISKE, MOUNT (13,500, approx.) [Mount Goddard]

One of the Evolution group, named by Theodore S. Solomons in 1895 for John Fiske, historian and philosopher.

The name was originally given to a peak on the ridge which forms part of the Goddard Divide, running southwest from the main crest of the Sierra toward Mount Huxley. The name has been erroneously transferred on the first edition (1912) of the U.S.G.S. Mount Goddard Quadrangle to a lower point at the intersection of the divide with the main crest. (T. S. Solomons.)

First ascent August 10, 1922, by Charles N. Fiske, John N. Fiske, Stephen B. Fiske, and Frederick Kellett. (S.C.B., 1923, XI:4.)

FLETCHER LAKE, CREEK [Mount Lyell]

Named by Lieutenant N. F. McClure in 1895 for Arthur G. Fletcher, deputy fish commissioner of the State Board of Fish Commissioners, who did a great deal toward stocking the streams of the Yosemite National Park. (N. F. McClure.)

FLORENCE LAKE [Mount Goddard]

Named in 1896 for Florence Starr, sister of Walter H. Starr, who, with Allen

L. Chickering and Theodore S. Solomons, camped here on a trip from Yosemite to Ockenden. (T. S. Solomons.)

FLORENCE MOUNTAIN (12,507), CREEK [Mount Lyell]

Named for Florence Hutchings, daughter of J. M. Hutchings. She was the first white child born in Yosemite Valley, where she was born August 23, 1864. She died in Yosemite Valley September 26, 1881.

"Mr. B. F. Taylor, in his charmingly sunny book, 'Between the Gates,' page 238, makes the following suggestion: 'Let us give the girl, for her own and her father's sake, some graceful mountain height, and, let it be called "Mount Florence!"' This complimentary suggestion through the kindness of friends, has been carried out; as one of the formerly unnamed peaks of the High Sierra now bears the name of 'Mount Florence.' This is best seen and recognized from Glacier Point and Sentinel Dome." (Hutchings: *In the Heart of the Sierras*, 1886, p. 147.)

FOERSTER PEAK (12,062), CREEK [Mount Lyell]

Named by Lieutenant N. F. McClure on his expedition of 1895 for Sergeant Lewis Foerster of his detachment. Foerster later became an officer, U. S. Army. (N. F. McClure.)

FORSYTH PEAK (11,140) [Dardanelles]

Major William W. Forsyth, Sixth (and in 1912, First) Cavalry, U. S. Army, was acting superintendent of Yosemite National Park during the seasons of 1909, 1910, 1911, and 1912.

FOX MEADOW [Tehipite]

John Fox was for many years a hunter, packer, and guide in the Kings River region, with headquarters at Millwood. He built a cabin and a bridge in Kings River Cañon.

"But Fox can afford to be flippanant about bears; he used to be a professional hunter of them, and long ago he, with his partner, killed two hundred and thirty-six grizzlies in the Rocky Mountains. But at last a grizzly got his partner, and Fox exchanged the Rockies for an abode in the Sierra. He has been there seventeen years now; says he likes it better than he does anything else, and proposes to 'stay with it.'" (Bolton Coit Brown, in S.C.B., 1897, 11:2, p. 91.)

FRYS POINT [Tehipite]

Walter Fry, of Three Rivers, superintendent of Sequoia and General Grant national parks 1914-1919; now U. S. Commissioner at the parks.

GABB, MOUNT (13,701) [Mount Goddard]

"Another patch of slate was seen, however, in passing down the San Joaquin River from Camp 188 to Camp 189; these form rather prominent knobs, one of which was called Mount Gabb." (Whitney Survey: *Geology*, 1865, p. 397.)

William More Gabb, of Philadelphia, paleontologist of the Whitney Survey; joined the Survey in 1861 at the age of thirty-two; died in 1878.

"The paleontologist was a distinctly loquacious person. One can imagine,

then, the laughter of these lean, brown men when Dr. Cooper, the serious, the unbending, announced that he had discovered a new species of the old brachiopod genus, *Lingula*; and that in honor of his friend William More Gabb he had bestowed upon it the name of *Lingula gabii*." (Brewster: *Life and Letters of Josiah Dwight Whitney*, 1909, p. 239.)

The Whitney Survey party, led by Professor Brewer, crossed the Sierra from Owens Valley by Mono Pass and descended Mono Creek to the San Joaquin. Camps 188 and 189 were on Mono Creek. The identity of the peak originally named Mount Gabb is obscure. On J. N. Le Conte's map of 1907 the name was given to the peak most nearly corresponding in position to that on the Whitney Survey map, but this peak has no slate on it.

First ascent by A. L. Jordan and H. H. Bliss, June, 1917. (S.C.B., 1918, II:3, p. 292.)

GALE PEAK (10,690)

[Mount Lyell]

Named by Lieutenant N. F. McClure for Captain G. H. G. Gale, Fourth Cavalry, U. S. Army, acting superintendent of Yosemite National Park in 1894. (N. F. McClure.)

GARDNER, MOUNT (12,903)

[Mount Whitney]

"Two peaks lying just in front of it [the crest] are especially fine; they are between five and six miles east of Camp 180; both are probably over 14,000 feet high, the northern being a little the highest. This we named Mount King, and the southern one Mount Gardner." (Whitney Survey: *Geology*, 1865, p. 392.)

James Terry Gardner, following his graduation from Yale Scientific School, accompanied Clarence King to California in 1863 and with him volunteered as an assistant with the Geological Survey of California under Whitney and Brewer. He became an expert topographer, and in 1874 was chief topographer of the Survey of the Fortieth Parallel. (Brewster: *Life and Letters of Josiah Dwight Whitney*, 1909, pp. 236, 237, 306.)

First ascent by J. N. Le Conte and Bolton Coit Brown, 1896. (S.C.B., 1898, II:3, p. 81.)

GAYLOR LAKES

[Mount Lyell]

Jack Gaylor, for many years a ranger in Yosemite National Park; died in service, April, 1921.

GEM LAKE

[Mount Lyell]

Originally named "Gem-o'-the-Mountains" by Theodore C. Agnew, miner, and so shown on McClure's map of 1896. (N. F. McClure.)

GENEVRA, MOUNT (13,037)

[Mount Whitney]

Mrs. Genevra Magee (Mrs. W. E. Magee). Named in 1899 by Miss Helen M. Gompertz, J. N. Le Conte, and others, who with Mrs. Magee were on the summit of Mount Brewer. (Mrs. J. N. Le Conte.)

GIBBS MOUNTAIN (12,700)

[Mount Lyell]

Wolcott Gibbs, professor of science at Harvard from 1863 until his death, in

1908, a lifelong friend of Professor Whitney. (Brewster: *Life and Letters of Josiah Dwight Whitney*, 1909, p. 80.)

The name was given by the Whitney Survey, and, although not mentioned in the Geology volume of 1865, appears on the Hoffmann and Gardner map of 1863-1867 accompanying the "Yosemite Guide Book," 1870.

GILBERT, MOUNT (13,232)

[Mount Goddard]

Grove Karl Gilbert, geologist; author of famous monographs on the Henry Mountains (Powell Survey, 1877) and Lake Bonneville (U.S.G.S., 1890); died 1918. (S.C.B., 1919, X:4, pp. 391-399, 430; 1920, XI:1, pp. 60-68.)

GIROUD PEAK (12,539)

[Mount Goddard]

Alfred R. Giroud, a sheep-raiser, of Independence, Inyo County.

I met Giroud at the head of Woods Creek in August, 1921. He told me he had taken sheep into that region in former years and had crossed to the Middle Fork of Kings River. I found his name on Mather Pass, carved on a stick of wood, dated 1916. (F. P. Farquhar.)

GLENN PASS

[Mount Whitney]

Glenn Crow, a forest ranger in the Inyo National Forest, and one time packer for U.S.G.S. (W. L. Huber.)

GOAT MOUNTAIN, CREST (12,203)

[Tehipite]

Said to be named on account of mountain goats (undoubtedly they were sheep, not goats) once seen there. (J. N. Le Conte.)

First recorded ascent by J. N. Le Conte and party in 1896. (S.C.B., 1897, II:2, p. 79.)

GODDARD, MOUNT (13,555)

[Mount Goddard]

"Thirty-two miles north-northwest is a very high mountain, called Mount Goddard, in honor of a Civil Engineer who has done much to advance our knowledge of the geography of California, and who is the author of 'Britton & Rey's Map.'" (Whitney Survey: *Geology*, 1865, p. 382.)

George H. Goddard surveyed the California-Nevada boundary at Lake Tahoe and Carson Valley in 1855. (U.S.C. & G. Survey: *Report for 1900*, appendix 3, p. 264. *Report of Surveyor-General of California*, 1856.)

Brewer's party of the Whitney Survey in 1864 made two unsuccessful attempts to reach the summit. (Whitney Survey: *Geology*, 1865, pp. 392, 394, 398, 399.)

"We found the Sierra Club register in the monument on the summit and inscribed our names with those of fifteen others who have made the ascent since September 23, 1879, when, as a small yellow document proclaims, the mountain was first climbed by Lil A. Winchell and Louis W. Davis." (S.C.B., 1901, III:3, p. 255, notes of a climb of Mount Goddard in 1900 by Harley P. Chandler. See, also, S.C.B., 1922, XI:3, p. 251.)

GOLDEN TROUT CREEK

[Olancha]

In 1903 President Roosevelt sent Dr. Barton W. Evermann to the Kern region for the express purpose of reporting on the remarkable golden trout, several

specimens of which had been scientifically described. Dr. Evermann found in this creek a variety different from any theretofore described. He named it *Salmo roosevelti*.

"This is the most beautiful of all the trouts: the brilliancy and richness of its coloration is not equaled in any other known species; the delicate golden olive of the head, back, and upper part of the side, the clear golden yellow along and below the lateral line, and the marvelously rich cadmium of the under parts fully entitle this species to be known above all others as the golden trout." (Barton Warren Evermann: *The Golden Trout of the Southern High Sierras*. Bulletin of the Bureau of Fisheries, 1906.)

This creek was once known as Whitney Creek, because its source is near the peak ascended by Clarence King in 1871, which he supposed to be Mount Whitney. Long after the error was discovered in 1873, the name remained attached to the creek. Later it was called Volcano Creek, on account of the cinder-cones in the vicinity. (*Mount Whitney Club Journal*, 1902, No. 1, p. 2; 1903, No. 2, pp. 41-43.)

GOODALE MOUNTAIN, CREEK

[Mount Goddard]

Presumably for Thomas J. Goodale, a pioneer of Owens Valley, who had a location on the creek. In 1871 he was editor of the *Inyo Lancet*. (Chalfant: *The Story of Inyo*, 1922, p. 213.)

GOODE, MOUNT (13,312)

[Mount Goddard]

"A few miles to the south rose a particularly inviting point, which certainly commands a peerless view. But time forbade an ascent this year, so I named it the Black Giant, and wondered how long it would stand as it has so far stood, an untrodden summit." (J. N. Le Conte in S.C.B., 1905, v:3, p. 236.) In making the map of the Mount Goddard quadrangle, 1907-1909, the U.S. G.S. placed the name Mount Goode on this peak, apparently unaware of the name given by Le Conte.

Richard Urquhart Goode, U.S.G.S.; topographer from 1879; later geographer in charge of surveys in western United States; born in Virginia, 1858; died 1903; graduate of the University of Virginia. (U.S.G.S.: *Twenty-fourth Annual Report*, 1903, pp. 287-290.)

First ascent by George R. Davis, U.S.G.S., about 1907.

GOULD, MOUNT (12,858)

[Mount Whitney]

Wilson S. Gould, of Oakland, was a member of the Le Conte party in the Kings River region in 1896. On July 13, 1896, he and J. N. Le Conte climbed the peak north of Kearsarge Pass, which Le Conte named Mount Gould. (S.C.B., 1897, II:2, p. 85.)

The first known ascent was made by J. N. Le Conte, Hubert Dyer, and others in 1890. "The main crest, 12,000 feet in elevation, was reached on July 20; and later in the day a lofty peak just to the north of the pass was ascended. Inasmuch as we were the first persons ever to touch its summit, we named it University Peak." (Hubert Dyer: *Camping in the Highest Sierras. Appalachia*, 1892, VI:4, p. 285.) The name University Peak was subsequently transferred to a higher peak south of Kearsarge Pass. (J. N. Le Conte.)

GRACE MEADOW

[Dardanelles]

Grace Sovulewski, now Mrs. Frank Ewing, of Yosemite, daughter of Gabriel Sovulewski, long in the government service in Yosemite National Park.

GRANITE BASIN, CREEK, PASS

[Tehipite]

The field party of the Whitney Survey under Brewer visited Granite Basin in 1864, as shown by the route on the Hoffmann map of 1873. The basin is clearly delineated on the map. The following description is undoubtedly drawn from that spot: "The region around the crest of the ridge between the forks of the Kings consists of granite masses, with spurs projecting out from them, and embracing basins of bare rock, each having a small lake at the bottom." (Whitney Survey: *Geology*, 1865, pp. 392-393.)

GRAVEYARD MEADOWS

[Mount Goddard]

Named by sheepmen because of the graves of two of their number who were murdered and lie buried there. (J. N. Le Conte.)

GRAY PEAK (11,581)

[Mount Lyell]

One of the Merced group. Shown on McClure maps of 1895 and 1896 as Gray Peak or Mount Hayes; on Le Conte map of 1893 as Gray Peak.

GREAT WESTERN DIVIDE

[Olancho, Mount Whitney, Kaweah, Tehipite]

Called by the Whitney Survey (*Geology*, 1865, p. 382) the western ridge. Shown on Le Conte map of 1893 as Great Western Ridge. On W. R. Dudley's sketch map accompanying his account of a visit to the Kaweah Peaks in 1896 (S.C.B., 1898, II:3, opp. p. 185) it is called Western Divide. Called Greenhorn Range by John Muir in *Century Magazine*, November, 1891, p. 93. First shown as Great Western Divide on Le Conte map of 1896 in S.C.B., 1897, II:2.

GRIZZLY POINT OR PEAK

[Yosemite]

Charles A. Bailey made the first ascent about 1885, according to J. M. Hutchings, who quotes a letter from Bailey describing the ascent. (Hutchings: *In the Heart of the Sierras*, 1886, pp. 454-455.)

GROUSE MEADOWS

[Mount Goddard]

Named by Lil A. Winchell in 1879. (L. A. Winchell.)

GRUNIGEN CREEK

[Kaweah]

Originally known as Lake Cañon Creek. It runs by the home of the Grunigen family, formerly spelled von Gruening. (George W. Stewart.)

GUITAR LAKE

[Mount Whitney]

Lake at the foot of Mount Whitney, said to have been named by Clarence King on account of its shape. (*Mount Whitney Club Journal*, 1902, No. 1, p. 4.)

GULL LAKE

[Mount Lyell]

So called by Israel C. Russell in his Quarternary History of Mono Valley,

California (U.S.G.S.: *Eighth Annual Report*, 1886-1887, p. 343); and shown on W. D. Johnson's map accompanying it.

GUYOT, MOUNT (12,305)

[Mount Whitney]

Named for Arnold Guyot by Captain J. W. A. Wright in 1881.

"Immediately west of us was a bare granite cone or pyramid, with great snow masses (September 3d) on its northern and eastern slopes. This the party agreed, at Wright's request, to call Mount Guyot, in honor of the distinguished Swiss geologist and geographer, whose lectures for two years at Princeton, New Jersey, are among the pleasantest recollections of his college days. The pass was also named Guyot Pass." (Elliott: *Guide to the Grand and Sublime Scenery of the Sierra Nevada*, 1883, p. 49.)

HAECKEL, MOUNT (13,422)

[Mount Goddard]

One of the Evolution group named by Theodore S. Solomons in 1895. (*Apalachia*, 1896, VIII:1, p. 50.)

Ernst Heinrich Haeckel (1834-1919), professor of zoology at the University of Jena for more than forty years.

The first ascent was made on July 14, 1920, by a party from the Sierra Club camp under the leadership of Walter L. Huber, comprising Nathan A. Bowers, G. D. Emerson, Francis P. Farquhar, Rodney L. Glisan, Mrs. Daisymay C. Huber, Walter B. Marble, Miss Lulie Nettleton, Robert M. Price. Three others from the Sierra Club camp, E. O. Allen, F. E. Crofts, and Olcott Haskell, made the ascent at the same time and closely followed Huber and several of his party to the summit. (S.C.B., 1921, XI:2, pp. 144-146.)

HALF DOME (8,852)

[Yosemite]

"The names 'North Dome,' 'South Dome,' and 'Half Dome' were given by us during our long stay in the valley from their localities and peculiar configuration. Some changes have been made since they were adopted. The peak called by us the 'South Dome' has since been given the name of 'Sentinel Dome,' and the 'Half Dome,' Tis-sa-ack, represented as meaning the 'Cleft Rock,' is now called by many the 'South Dome.'" (Bunnell: *Discovery of the Yosemite*, 1911, p. 216.)

"The whole appearance of the mass is that of an originally dome-shaped elevation, with an exceedingly steep curve, of which the western half has been split off and has become engulfed. Hence the name, which is one that seems to suggest itself at first sight of this truly marvelous crest of rock." (Whitney Survey: *Geology*, 1865, p. 416.)

"Tesaiyak. The Half Dome, generally spelt Tisayac." (Whitney: *Yosemite Guide Book*, 1870, p. 17.)

"Tissaack, South Dome in Yosemite, is . . . the name of a woman who according to tradition was transformed into the mountain." (Kroeber: *California Place Names of Indian Origin*, 1916, p. 62.) For a version of the Indian legend, see Bertha H. Smith: *Yosemite Legends*, 1904, pp. 45-54.

"Until the fall of 1875 the storm-beaten summit of this magnificent landmark was a *terra incognita*, as it had never been trodden by human feet. . . . This honor was reserved for a brave young Scotchman, a native of Montrose,

named George G. Anderson, who by dint of pluck, skill, unswerving perseverance, and personal daring, climbed to its summit, and was the first that ever successfully scaled it. This was accomplished at 3 o'clock P. M. of October 12, 1875.

" . . . He procured drills and a hammer, with some iron eye-bolts, and drilled a hole in the solid rock; into this he drove a wooden pin, and then an eye-bolt; and, after fastening a rope to the bolt, pulled himself up until he could stand upon it; and thence continued that process until he had finally gained the top." (Hutchings: *In the Heart of the Sierras*, 1886, pp. 456-459. See, also, S.C.B., 1920, x:1, pp. 101-102.)

HALSTEAD MEADOW

[*Tehipite*]

Sam Halstead brought cattle here about 1872.

HAPPY GAP

[*Tehipite*]

Pass between Kings River Cañon and Tehipite Valley on the "Jackass Route." Those who succeed in getting a pack-train to this point at once perceive the appropriateness of the name. (J. N. Le Conte.)

The name is mentioned as known to John Fox, pioneer of Kings River, in 1896. (S.C.B., 1897, II:1, p. 45.)

HAPPY ISLES

[*Yosemite*]

"There are three islets just above the bridge which have never been given a place in Yosemite geography, so far as I am able to learn, and, commemorative of the emotions which I enjoyed when exploring them, I have named them the *Happy Isles*, for no one can visit them without for the while forgetting the grinding strife of his world and being happy." (Letter from W. E. Dennison, Guardian of Yosemite Valley, to William B. May, secretary of the Yosemite Commissioners, October 25, 1885, in Superintendent's files, Yosemite.)

HARRISON PASS

[*Mount Whitney*]

"The trip of this summer [1895] has brought out the further fact that the pass has long been known and used by sheep-herders under the name of Harrison's Pass." (S.C.B., 1896, I:7, p. 290.)

HAZEL GREEN

[*Yosemite*]

"The next camp named was 'Hazel Green,' from the number of hazel bushes growing near a beautiful little meadow." (Bunnell: *Discovery of the Yosemite*, 1911, p. 321.)

HEART LAKE

[*Mount Goddard*]

On the U.S.G.S. map (edition of 1912) the name is applied to the wrong lake. The true Heart Lake is a diminutive one just above the pair of lakes on the south side of Seldon Pass. It is almost perfect heart-shape. (F. P. Farquhar.)

HELEN LAKE

[*Mount Goddard*]

The two large lakes on either side of Muir Pass were named for the daughters of John Muir. The one at the source of the Middle Fork of Kings River was named for Mrs. Helen Muir Funk.

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HELL-FOR-SURE PASS

[Mount Goddard]

Named by J. N. Le Conte in 1904. The old sheep trail crossing this divide between the South Fork of San Joaquin and North Fork of Kings River was known as the Baird Trail. (J. N. Le Conte.)

HELMS MEADOW

[Kaiser]

William Helm was the first settler in the open plain between the San Joaquin and Kings rivers. He settled near Dry Creek in 1865. From 1870 to 1874 he and Frank Dusy were partners in sheep-raising. (L. A. Winchell.)

HENRY, MOUNT (12,197)

[Mount Goddard]

Named by J. N. Le Conte for Joseph Henry, Professor of Natural History at the College of New Jersey (Princeton), 1832-1878; a physicist noted for his investigations in electromagnetism; secretary of the Smithsonian Institution, 1846; president of the National Academy of Sciences, 1868-1878; born 1797, died 1878. (J. N. Le Conte.)

HERMIT, THE (12,352)

[Mount Goddard]

Named by Theodore S. Solomons in 1895. The name has been misplaced on the U.S.G.S. map (1912 edition).

"The traveler will be greatly attracted by a very sharp peak or butte that rises on the south wall. From its isolated position as viewed from the valley we called it the Hermit. . . . It really forms the termination of several peaks which, however, are not visible from below." (Solomons: Manuscript prepared for the Sierra Club, 1896, p. 78.)

HETCH HETCHY

[Yosemite]

"Named from a Central Miwok word denoting a kind of grass or plant with edible seeds abounding in the valley." (Kroeber: *California Place Names of Indian Origin*, 1916, p. 42.)

"An explanation of the meaning of the word Hetch Hetchy has been obtained through the kindness of John Muir, who says: 'I have been informed by mountaineers who know something of the Indian language that Hetch Hetchy is the name of a species of grass that the Tuolumne Indians used for food, and which grows on the meadow at the lower end of the valley. The grain, when ripe, was gathered and beaten out and pounded into meal in mortars.' The word was originally spelled Hatchatchie." (Sanchez: *Spanish and Indian Place Names of California*, 1922, p. 332.)

"The Lower Tuolumne Yosemite, that I am about to sketch—called 'Hetch Hetchy' by the Indians—is said to have been discovered by one Joseph Screech, a hunter, in the year 1850, one year before Captain Boling and his party discovered Yosemite, in their pursuit of marauding Indians. . . . My first excursion to Hetch Hetchy was undertaken in the early portion of November, 1871." (John Muir: *Hetch Hetchy Valley*, in *Overland Monthly*, July, 1873, pp. 42-43.)

"Hetch Hetchy is claimed by a sheep-owner named Smith, who drives stock into it every summer, by a trail which was built by Joseph Screech. It is often called Smith's Valley." (Same, pp. 49-50.)

HILGARD, MOUNT (13,351)

[Mount Goddard]

"Above the valley [of Bear Creek], a bare slope flanks the base of the ridge of peaks of which Mount Hilgard is the most northern. These are several in number. Mount Hilgard from the west is a striking mass, strongly suggesting Castle Peak in Tuolumne County. It was thus named at the suggestion of an admiring former pupil of Professor Hilgard, Mr. Ernest C. Bonner, who accompanied me on one of my outings." (Theodore S. Solomons: Manuscript, 1896, p. 66.)

"The rocks of the First Recess, which opens southward just above the valley, have striking individuality. The granite is very pure and creamy in appearance. Mount Hilgard, named in honor of Professor [Eugene W.] Hilgard of the University of California, stands at the head of this splendid side gorge." (Theodore S. Solomons: *Unexplored Regions of the High Sierra*, in *Overland Monthly*, January, 1897, p. 74.)

From this it appears that the name was originally given to the mountain shown on the U.S.G.S. map (edition of 1912) as Recess Peak.

HITCHCOCK, MOUNT (13,188)

[Mount Whitney]

On Tuesday, September 7, 1881, Rev. F. H. Wales, of Tulare, climbed Mount Young, where he built a monument and left a record of its name, "and the name of another handsome peak just south of it, which, from his suggestion, was named Mount Hitchcock." This was in honor of Charles Henry Hitchcock, Professor of Geology at Dartmouth, where Wales spent his college days. (Elliott: *Guide to the Grand and Sublime Scenery of the Sierra Nevada*, 1883, pp. 49-50.)

HOCKETT, MEADOWS, LAKES, TRAIL

[Kaweah]

J. B. Hockett, a pioneer of Tulare County. He camped at what was later Porterville as early as 1849. In 1863 Hockett built the trail which bears his name.

"Although this is one of the oldest trails into the mountains, it is the roughest. Both the Hockett and Jordan trails were 'built' for the purpose of diverting the travel to the mines of Inyo County from the Walker Pass. According to the 'franchises' that were granted for the construction and operation of these two toll-trails, they were intended to be converted into wagon-roads as soon as possible; but the collapse of the Inyo mining boom in the early '60s defeated the enterprise, and no attempt was ever made to build any part of a road through the rough mountains." (P. M. Norboe: *Trails into the Mt. Whitney and Kern River Regions*, in *Mt. Whitney Club Journal*, 1903, No. 2, p. 67.)

HOFFMANN, MOUNT (10,921)

[Yosemite]

Named by the Whitney Survey in 1863 for Charles F. Hoffmann, principal topographer of the survey. (Whitney Survey: *Geology*, 1865, p. 424.)

Whitney says in a letter to his brother, May 3, 1862: "Hoffmann does as well in his place as anyone could possibly do. He is a German, twenty-four years old, formerly topographer to Lander's wagon-road expedition, with a

capital eye for hills and orography in general, and no vices." (Brewster: *Life and Letters of Josiah Dwight Whitney*, 1909, p. 214.)

Whitney, Brewer, and Hoffmann were in the vicinity of the mountain in 1863, and one or all undoubtedly climbed it, as the summit and the view are described in the report. (Whitney Survey: *Geology*, 1865, p. 424.)

In 1867 a photograph was taken of the summit by W. Harris, showing Charles F. Hoffmann himself with his transit. This photograph is among the plates accompanying *The Yosemite Book*, issued by the Whitney Survey in 1868.

John Muir climbed Mount Hoffmann, July 26, 1869. "Ramble to the summit of Mount Hoffmann, eleven thousand feet high, the highest point in life's journey my feet have yet touched." (Muir: *My First Summer in the Sierra*, p. 199.)

HOG RANCH

[Yosemite]

An old name. Mentioned in Whitney's *Yosemite Guide Book*, 1870, p. 110.

Now called Mather Station.

HOMERS NOSE (9,005)

[Kaweah]

Named by some old-timers of the Kaweah country for an incident connected with one of their number named Homer.

The Indians say that the first Wutchumna Indians were "created" here by Tsohit, the Eagle God and the Wolf God. (George W. Stewart.)

HORSE CORRAL MEADOW

[Tehipite]

J. H. Harrell, a cattleman of Tulare County, drove his horses into the mountains in the summer of 1877, after an exceptionally dry winter, to save them from starvation. He built a corral for them at this meadow and gave the name at that time. (J. B. Agnew.)

HORTON LAKE

[Mount Goddard]

William Horton, a pioneer settler in Round Valley. (Chalfant: *The Story of Inyo*, 1922, p. 166.)

HOSPITAL ROCK

[Tehipite]

A hunter named Everton was accidentally shot in a bear-trap that he had himself set. He was brought by Hale Tharp and others to this spot, where he was cared for. This was about 1873 or 1874. The name was probably given by Hale Tharp. The spot was used as a sort of hospital at other times, particularly by Joe Palmer after an accident, and by James Wolverton during his last illness. (George W. Stewart.)

HUMPHREYS, MOUNT (13,972)

[Mount Goddard]

Named by exploring party of the Whitney Survey in 1864. It is not mentioned in the written reports, but appears on Hoffmann's map. The identity of the peak now known as Mount Humphreys with that shown on Hoffmann's map and later on the Wheeler Survey map has been established by J. N. Le Conte. (S.C.B., 1922, XI:3, pp. 249-250.)

Named for Andrew Atkinson Humphreys, born 1810, died 1883. As captain of engineers, U. S. Army, he was joint author with Lieutenant H. L. Abbot

of the Report on the Physics and Hydraulics of the Mississippi River, 1861. Afterward, major-general and chief of engineers. Clarence King's Survey of the Fortieth Parallel, 1867-1872, was under control of General Humphreys.

First ascent, July 18, 1904, by James S. Hutchinson and Edward C. Hutchinson. (S.C.B., 1905, v:3, pp. 153-173.)

John Muir speaks of climbing Mount Humphreys in *Century Magazine*, November, 1891, p. 86, and also describes the view from the summit in *Overland Monthly*, January, 1875. (S.C.B., 1921, xi:2, p. 182.) But he was undoubtedly mistaken in the identity of the mountain. (S.C.B., 1922, xi:3, p. 250-251.)

HUTCHINGS, MOUNT (10,787)

[*Tehizite*]

Named for J. M. Hutchings, pioneer of the Yosemite, who also visited other parts of the Sierra in early days. Author and publisher: *Hutchings' California Magazine; Scenes of Wonder and Curiosity in California*, 1862; *In the Heart of the Sierras*, 1886. (J. N. Le Conte.)

The name dates back at least to 1891, as it appears on map illustrating article by John Muir in *Century Magazine*, November, 1891. On Muir's map it appears farther west than on the U.S.G.S. map of 1905, but the latter is in accord with the Le Conte map of 1896.

HUXLEY, MOUNT (13,124)

[*Mount Goddard*]

Named by Theodore S. Solomons in 1895 for Thomas Henry Huxley, as one of the Evolution group of peaks. (T. S. Solomons.)

ILLILOUETTE CREEK, FALLS

[*Yosemite*]

"This canyon is called by Professor J. D. Whitney the 'Illilouette,' a supposed Indian name; but I have never questioned a single Indian that knew anything whatever of such a word; while every one, without an exception, knows this canyon either by Too-lool-a-we-ack or Too-lool-we-ack; the meaning of which, as nearly as their ideas can be comprehended and interpreted, is the place beyond which was the great rendezvous of the Yo Semite Indians for hunting deer." (Hutchings: *In the Heart of the Sierras*, 1886, p. 440.)

Bunnell (*Discovery of the Yosemite*, 1911, pp. 206, 207, 224) says that the name Illeuette, or Illillette, is not Indian, and therefore meaningless and absurd. He calls it Too-lool-we-ack, or Too-lool-lo-we-ack.

Whitney's *Yosemite Guide-Book*, 1870 (p. 17), gives the following: "*Tulu-owe-hack*. The canyon of the South Fork of the Merced, called the Illilouette in the California Geological Report, that being the spelling given by Messrs. King and Gardner,—a good illustration of how difficult it is to catch the exact pronunciation of these names. Mr. Hutchings spells it Tooluluwack."

INFANT BUTTES

[*Mount Goddard*]

Named by Theodore S. Solomons. (T. S. Solomons.)

INYO COUNTY

[*Mount Goddard, Bishop, Mount Whitney, Olancha*]

"Inyo County is said to be named after an Indian tribe. No such division or village appears to have been recorded, and although the word sounds Shosho-

nean, and the derivation seems probable, it must be regarded as uncertain." (Kroeber: *California Place Names of Indian Origin*, 1911, p. 43.)

IRELAND LAKE, CREEK

[Mount Lyell]

Named by Lieutenant Benson for Captain Merritte W. Ireland, Medical Corps, U. S. Army, who was on duty in Yosemite National Park in 1897; surgeon-general, A. E. F., 1918; now surgeon-general of the Army. (H. C. Benson.)

ISBERG PASS, PEAK

[Mount Lyell]

Named by Lieutenant McClure for a soldier of Norwegian birth who was with him in 1895 while exploring for a route from the Merced to the Minaret region. Isberg, prospecting for sheep-herders' trails, discovered the pass. The peak was subsequently named from the pass. (N. F. McClure.)

ITALY, LAKE

[Mount Goddard]

Named by U. S. G. S. about 1907, because of its shape, which was first apparent when drawn on the map.

JENNIE LAKE

[Tehipite]

Named in 1904 by S. L. N. Ellis, forest ranger, for his daughter. (J. N. Le Conte.)

J. O. PASS

[Tehipite]

At the summit of the pass there are still to be seen the letters J O carved on a tree. It is said that a sheepman named Manuel Cadoza sent to Portugal for his brother. Before he could arrive, Manuel had to leave for the mountains with his sheep. To mark the route for his brother to follow he carved his brother's name, Jo, on trees from Colony Mill to the pass. Sam Ellis gave the name to the pass. (George W. Stewart, Walter Fry.)

JUNCTION PEAK (13,903)

[Mount Whitney]

Named by J. N. Le Conte in 1896. It stands at the junction of the Kings-Kern Divide with the main Sierra Crest. (J. N. Le Conte.)

First ascent August 8, 1899, by Edwin B. Copeland and E. N. Henderson. (S.C.B., 1900, III:2, p. 172.)

JUNE LAKE

[Mount Lyell]

The name appears in Israel C. Russell's Quarternary History of Mono Valley, and is shown on the accompanying map by Willard D. Johnson. (U.S.G.S.: Eighth Annual Report, 1886-87, p. 343.)

PHOTOGRAPHS OF THE SIERRA NEVADA MOUNTAINS TAKEN FROM MOUNT HAMILTON

BY W. H. WRIGHT

THE two photographs to which this note relates were taken from Mount Hamilton in the Coast Range. The outlook is therefore over a considerable portion of that range, and across the great central basin of California.

Plate CXV shows the neighborhood of the Yosemite Valley. It is a portion of a photograph of greater extent which includes the region of the Mariposa Grove. The direction of view is a little north of east and the picture shows the range at about its point of closest approach to Mount Mamilton. The distance of the crest is here about 135 miles, and of Half Dome 119 miles. The Yosemite Valley lies near the middle, and the upper portions of three of its most familiar cliffs—namely, Half Dome, El Capitan, and Sentinel Rock—are plainly visible. The bases of these precipices are hidden by a transverse ridge situated several miles this side of the valley, and the amount of stature thus lost is really very considerable, for the Yosemite floor, were it visible, would lie apparently level with the top of the foreground bush just under Half Dome. In the forested areas on both sides of the Yosemite individual trees are distinguishable, even where the stand is so close that they are not outlined against the snow. The brush in the left foreground is immediately at hand—that is to say, about half a mile away—while the ridge which emerges from behind it and forms the right foreground is approximately fifteen miles distant. This ridge is the easternmost of the higher crests of the Coast Range and marks the western limit of the San Joaquin watershed.

In viewing either of the photographs it is necessary to take into consideration the effects of the earth's curvature. Although the Sierras are much higher than Mount Hamilton, the line of sight to a point on the crest starts with a slight inclination downward. In other words, from our point of view, we look down upon the Sierra summits. At some point over the San Joaquin Valley the sight-line becomes a level one, and on reaching the mountains it is rising

rapidly. The apparent heights of mountains at different distances from the camera is of course affected by this.

The second photograph (Plate CXVI) shows a more distinct part of the range, one which is in fact quite close to the point of its disappearance over the southeastern horizon. It is a view which for a number of reasons is only infrequently had. One reason for its rarity is that the line of vision passes diagonally across a part of the San Joaquin Valley that is usually filled with smoke and haze (presumably from the oil-fields); another relates to the fact that the mountains are here so far away that the vision-line comes close to the bulging surface of the earth, and the light is consequently subject to the very considerable disturbances which proximity to the ground usually produces. The atmospheric conditions just preceding a storm, when clouds have formed over the Coast Range but have not yet reached the Sierras, seem especially favorable for a clear view of the southeastern mountains. Such an occasion presented itself on the 27th of last December when this photograph was taken. Unfortunately, only a small camera and a defective color filter were available at the time, so that the photograph does not represent the best that can be accomplished; it is in fact not reproduced for its artistic or technical merits but because of its possible interest in relation to the club's last outing, the scene of which it embraces. Black Rock Pass, where the party entered the mountains, is shown on the right, and University Peak, close to Junction Pass, the point of emergence, is at the left. The picture therefore includes the whole range of the summer's ramblings, the extreme limits marked by two passes that it is believed will not be forgotten soon by any member of the party. The high group of peaks is the Kaweah Range, seen almost edge on and viewed directly through Deer Gap. The central of the three dark points is the "Black" Kaweah and the white summit adjoining immediately on the right is the highest peak (Red or Gray, as the reader prefers). The high peak is depressed relatively to the other as an effect of the earth's curvature. Its distance from Mount Hamilton is 185 miles. Mount Whitney is not visible; the calculated bearing is indicated in the illustration, but the mountain lies behind the high crest that forms the western rim of Milestone Bowl. Kings River Cañon would be visible immediately to the right of University Peak were it not for the hill in the foreground, and the view would be good, for the line of sight lies right up to the gorge. The dark

escarpment, in shadow, to the left of Mount Brewer is the northwest face of North Guard, and the snowy ridge leading up to it is Sphinx Crest. The double meadow in the foreground is the Santa Isabel Valley. It is about seven miles distant from Mount Hamilton. It appears to be bounded on its farther side by the range in the middle distance, but three mountain valleys lie concealed among the low hills and must be crossed before that range is reached. Between the Coast Range and the Sierras the haze and smoke characteristic of the southern part of the San Joaquin Valley are very much in evidence.

Beyond a distance of 175 miles the difficulties of terrestrial photography increase materially, very largely because of irregularities in atmospheric refraction. This may seem strange in view of the fact that astronomical subjects are successfully photographed at simply incalculable distances. It must be remembered, however, that the most serious difficulties encountered in astronomical photography are introduced by these very atmospheric irregularities, and that when photographing the Kaweah peaks we are working through about thirty times as much atmosphere as when photographing a star or nebula. Refractive disturbances are in fact so troublesome that I am not very hopeful that pictures of these distant mountains will ever be obtained entirely free from some distortion due to them. The most common effect is the mirage phenomenon known as "looming," and there is something of it in the present picture just above the haze-line where the mountains present a spurious clifflike appearance. The slight wrinkle in University Peak is a refractive disturbance of another sort, and is probably due to the passage of the light close to the hilltop in the middle distance. In extreme cases the whole range is lifted bodily and the individual peaks are distorted into grotesque forms suggestive of the battlements and turrets of a medieval castle; nor is it uncommon to see a single mountain reproduced several times above itself in mirage, the totality of the images presenting the appearance of an oriental temple.

In estimating elevations in either of the photographs, but especially in the second, it must be borne in mind that we see only the upper part of the range; the base lies far below the horizon. The horizon, at the elevation of Mount Hamilton, is distant approximately eighty miles, but notwithstanding the great advantage to the vision which the elevated viewpoint affords, the base of the

← Sentinel Rock
← Half Dome
← El Capitan
← Koip Peak



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THE SIERRA NEVADA MOUNTAINS IN THE VICINITY OF YOSEMITE

Photo by W. H.

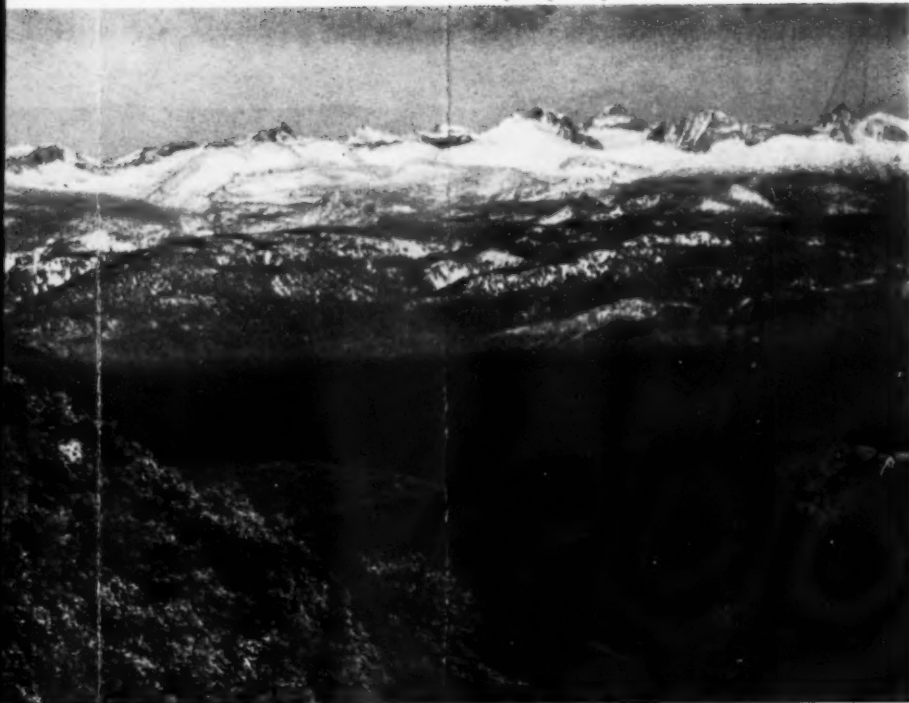
←Mt. Florence

←Mt. McClure

←Mt. Lyell

←Rodgers Peak

←Mt. Clark



YOSEMITE--VIEWED FROM MOUNT HAMILTON, IN THE COAST RANGE
oto by W. H. Wright

PLATE CXV.

←Rodgers Peak

←Mt. Clark



BEFORE THE STORM—VIEW FROM MOUNT HAMILTON, LOOKING TOWARD THE SOUTHEAST
Photo by W. H. Wright



←University Pk.

←Mt. Brewer

←Milestone

←Lion Rock

←Kaweah Pks.

←Mt. Lippincott

←Black Rock Pass

←Sawtooth

BEFORE THE STORM. VIEW FROM MOUNT HAMILTON, LOOKING TOWARD THE SOUTHEAST
Photo by W. H. Wright



PARSONS MEMORIAL LODGE AND LAMBERT'S DOME. TUOLUMNE MEADOWS
Photo by Com. L. Grover

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Sierras, at the distance of the Kaweah peaks, is about seven thousand feet below the horizon. Accordingly, Giant Forest, which has about that elevation, would, if it were discernible through the haze, appear about on a level with the San Joaquin plain.

A number of inquiries have been received relating to the procedure followed in what may, for want of a better term, be called distance photography. These photographs were made with light lying on and beyond the red end of the visible spectrum, using a plate sensitive to infra-red rays and protecting it by a ruby color filter. The action of the filter is to exclude most of the light of the visible spectrum, and the photography is therefore accomplished by light of longer wave-length, to which the eye is insensitive. These long waves have exceptionally high penetrating power and get through great thicknesses of atmospheric haze with little difficulty. On the other hand, the haze which intervenes between distant objects and the camera, and which ordinarily serves to "fog" their images on the plate, is visible entirely by light which the filter excludes. The effect of the filter is, therefore, to render the haze invisible, and the picture is made by the strongly penetrative rays that are allowed to pass, and for whose reception the specially sensitized plate is provided. The method was suggested some years ago by Dr. Keivin Burns, then of the United States Bureau of Standards, as likely to prove effective in the photography of distant mountains. Dr. Burns had been engaged in the development of haze-penetrating photography during the war, and as he had frequently seen the Sierras from Mount Hamilton the suggestion was a natural one. Successful photographs of portions of the range were made shortly thereafter by Dr. C. D. Shane and Miss Mary Heger (now Mrs. C. D. Shane), and a considerable number have since been obtained by the writer.

While the foregoing description may seem somewhat technical, it will be realized by those conversant with ordinary photographic practice that the method carries only a step farther the familiar procedure of photographing through a yellow color filter on an orthochromatic plate. That device reduces the effect of haze, and in using a red or an infra-red filter we are merely imposing more exacting conditions on the quality of the light that is used. It is in fact not necessary to go into the infra-red to secure good distance range. A commercial "panchromatic" plate behind a Wrattan A filter (red)

gives exceptionally good atmospheric penetration, and it eliminates the troublesome business of sensitizing plates to the infra-red.

In presenting these views I wish to express my obligation to Mr. Carl Bergmann, Photographer at the Lick Observatory, for preparing the prints for reproduction. Negatives made by the process described almost invariably show high contrast and are difficult to handle. The successful reproduction of the values on paper is due very largely to his skill and care.

IN THE YELLOWSTONE

LITTLE pin-prick geysers, spitting and sputtering;
Little foaming geysers, that spatter and cough;
Bubbling geysers, that gurgle out of the calyx of morning-glory
pools;
Laughing geysers, that dance in the sun, and spread their robes like
lace over the rocks;
Raging geysers, that rush out of hell with a great noise, and blurt
out vast dragon-gulps of steam, and, finishing, sink back
wearily into darkness;
Glad geysers, nymphs of the sun, that rise, slim and nude, out of the
hot dark earth, and stand poised in beauty a moment, veiling
their brows and breasts in mist;
Winged geysers, spirits of fire, that rise tall and straight like a se-
quoia, and plume the sky with foam:
O wild choral fountains, forever singing and seething, forever boil-
ing in deep places and leaping forth for bright moments into
the air,
How do you like it up here? Why must you go back to the spirits of
darkness? What do you tell them down there about your
little glorious life in the sun?

HARRIET MONROE

Reprinted by permission of *Poetry* (July, 1922).

THE EDUCATIONAL DEVELOPMENT OF YOSEMITE NATIONAL PARK

BY ANSEL F. HALL, CHIEF NATURALIST, U. S. NATIONAL PARK SERVICE

THE friends of John Muir delight to tell of his eternal willingness to halt by the trailside to name a tiny flower or to point out with reverence the ice-carvings of the Master Sculptor on great granite walls. Nothing in nature was too small to claim his attention nor too great to be included in his apprehension. His utter unselfishness in giving freely of this fund of information that had cost years in the gathering marks him as the Sierran prophet of the great out-of-doors. Prophet he was, but in that day his personal interpretations of the phenomena of nature reached but a few of the none too numerous visitors to Yosemite.

Now the world is living at a pace that was scarcely dreamed of half a century ago. John Muir's Yosemite, a valley filled with cathedral quiet, has become but a memory, except, perhaps, during the few dreamy days of Indian summer. The march of progress has demanded the greatest good for the greatest number, and so in July one may find ten thousand camped beside the Merced. The quiet and the wildness still exist, but we must now seek them eastward in a thousand cañons of the "mountains of light." With the sudden coming of hordes came also the "jazz" influence that seems to dominate our age. A certain degree of so-called "popularization" seems to be inevitable in Yosemite, yet it is ever the ideal of the National Park Service to administer the park not as a summer-amusement resort, but as a great reserve where nature may be studied and enjoyed unprofaned by unwelcome artificial influences.

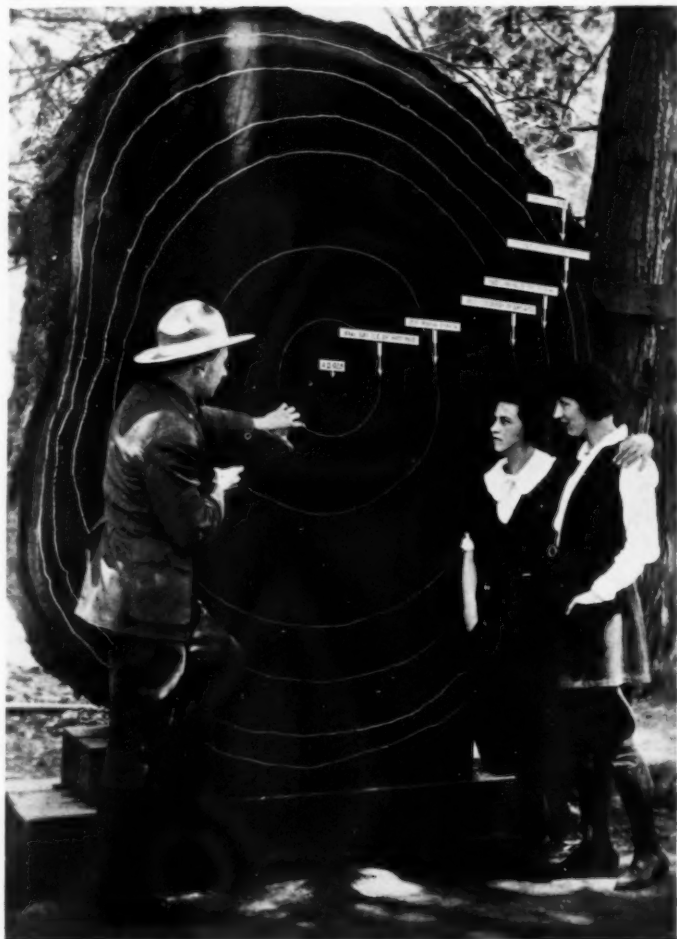
A man set down in the wilderness may enjoy its scenic beauty and appreciate its magnitude, but he is in the position of the tourist standing for the first time before the canvas of one of the old masters without ever having studied art. A few words from an understanding artist might bring forth unobserved hidden beauties of line or technique or composition that would reveal the soul of the masterpiece. So it is with nature, and the Park Service realizes that its important functions are not only to display the natural wonders of the

country, but also to interpret them for the greater understanding and enjoyment of the people.

Yosemite was selected several years ago as the field for the first organized educational development. Dr. Harold Bryant, who had inaugurated a nature-guide movement at Lake Tahoe, was fittingly selected as the scientist most qualified by education, experience, and personality to organize the Yosemite Nature Guide Service. Assisted by several field naturalists, Doctor Bryant conducts field trips daily during the season, exploring the byways of Yosemite Valley and identifying for visitors the various flowers, birds, trees, mammals, and other interesting bits of nature that may be encountered along the trailside. Special daily trips are organized for children, and the little ones always prove most receptive, especially when playing such ingenuously devised games as "bark-feeling" and "smelling." Nightly lectures at the main hotel-camps often identify for visitors some peculiar bird they have seen or perhaps tell them interesting facts about the life habits of wild animals they have observed. The Nature Guide Service was welcomed by the public; indeed, during the season of 1922 forty thousand persons took advantage of attending the field trips and evening lectures.

Contemporaneous with the organization of the Nature Guide Service came the establishment of the Le Conte Memorial Lectures by the University of California. "Professor Joe" Le Conte first visited Yosemite in 1870 and, accompanied by John Muir, explored the High Sierra. From that time until his death in the valley in 1900 he was closely identified with Yosemite and did much to explain the secrets of its origin. In his memory, then, the Extension Division of the University of California sends yearly to Yosemite during the months of July and August some of the most eminent western scholars—such men as Merriam, Matthes, Neuhaus, Bolton, and Lawson—to deliver lectures upon the natural history, geology, art, ethnology, history, and other subjects so well exemplified by the region. Year by year these lectures have grown in public esteem until now many persons visit Yosemite especially to attend them.

The Service further co-operates with the University of California by distributing copies of the several hundred bulletins available on subjects covering a multitude of useful arts and sciences and by enrolling students in correspondence courses, which are offered at a very nominal fee.



YOSEMITE NATURE-GUIDE SERVICE
Illustrating the span of life of a Big Tree



SECTION OF THE YOSEMITE MUSEUM
Showing model of the Yosemite Valley by Ansel F. Hall

During the entire year, but especially in the spring and summer months, botanical exhibits are maintained by the Park Service at the Yosemite Museum and at Camp Curry. These flower shows have been most successfully developed through the enthusiastic efforts of Mrs. Charles Michael, and in them are displayed labeled specimens of practically all the wild flowers in the park, each in its blooming season. The exhibition of actual living specimens lends a simplicity and effectiveness that could never be obtained were the blossoms embalmed or dried and displayed in the usual stereotyped way.

In the summer of 1921 the old Jorgensen Studio building was designated "The Yosemite Museum." The lack of funds seemed to preclude the establishment of a museum. However, furniture was made from slabs furnished by a lumber company with holdings adjacent to the park. Doors were removed and converted into tables. The registry-desk is a log, water-carved and polished to a silver-gray by the Merced River. All exhibit cases are home-made. The building itself is a rambling old historical landmark that lends itself well to the purpose of giving a local character to the ensemble.

From the beginning it was realized that the museum should be local in character if it were to fulfill its mission of helping toward the understanding and greater enjoyment of the park. Obviously, the most urgent necessity was that of assembling the widely scattered and fast-disappearing relics of the early days. Owing to Yosemite's remarkably varied past, there were surprisingly few of these historical relics to be found locally. By following small clues, however, many were discovered in the least-expected places, some of them as far afield as New England. In the great majority of cases the owners were more than willing to give or lend these relics for exhibit. Thus a great number of mementos of the early days have found their way back to Yosemite, among them two old stage-coaches; a number of exceedingly interesting hotel registers; numerous souvenirs of John Muir, Galen Clark, J. M. Hutchings, George Fiske, and other pioneers; relics of the golden days of '49; and arms and accouterments of the early days of Spanish California.

Of the ten thousand Miwok Indians who inhabited the Yosemite region in 1851, when white men first came, but five hundred now remain, and these survivors and descendants are fast losing their arts, crafts, and traditions. Although their civilization was quite primitive, the Miwoks developed great skill in the making of baskets,

which they used for every purpose in daily life—gathering of seed, storage, cooking, carrying of babies and burdens, gambling, burial, and in a hundred other ways. Fine old baskets are exceedingly valuable, but many hundred of these have been donated to the collection through the enthusiastic co-operation of museum visitors and other friends of Yosemite. Weapons and many other articles of daily use, including the ceremonial costume of the last Yosemite medicine-man, are also among the accessions, some of them as loans, but the majority as donations.

The natural-history collection was started several years ago by the taxidermy work of Chief Ranger F. S. Townsley, and his specimens were generously given to form the nucleus of the bird and mammal exhibits. Each season sees additional specimens brought in, mounted, and labeled by the members of the Nature Guide Service. A recent donation has equipped a room with vivarium cases, where living reptiles and mammals will be shown. The permanent flower and tree exhibits were made possible by the presentation of several hundred mounts in which individual specimens can be displayed and handled without damage.

The most gratifying feature of the development of the Yosemite Museum is the interest and enthusiasm displayed by the visitors and the fact that to them is largely due the credit for its establishment and maintenance. Every exhibit—and their total value is now some thirty thousand dollars—is the gift of some Yosemite enthusiast. That there have been few large donations is not discouraging; rather is it a satisfaction to receive the many small gifts and to know that the museum is made possible by hundreds of donors rather than by one large bequest.

To correlate the educational activities of Yosemite National Park and to supply the need of an interested public, a weekly magazine, *Yosemite Nature Notes*, was last year published for the first time. The material used is popular in nature and has been welcomed, not only by Yosemite visitors, but also by the press of the state.

The educational development of our national parks is no longer an experiment. In the near future the ideal of the Park Service will be realized; we look forward to a future when each park will have its museum, flower shows, and nature guides—scientists who can explain in terms of every-day language the intricate secrets of nature that, though lying at hand, are often hidden to the untrained eye.

FIRST ASCENT OF MOUNT FISKE

BY CHARLES NORMAN FISKE

MOUNT FISKE is a mile east of Mount Huxley in the Evolution Group, without legend on the Mount Goddard quadrangle and only properly marked, so far as I know, on the Solomons and Le Conte maps of twenty or more years ago. The peak was named for Professor John Fiske, historian and philosopher, by Solomons in 1895, when he named other peaks of this group. It is shown in his photograph in the SIERRA CLUB BULLETIN of January, 1905. Due to inadvertence, the peak named Mount Wallace, the only one of the group climbed by Solomons, half a mile southeast of Haeckel, has no other designation than 13,328 on the U. S. Geological Survey map, while, according to Solomons, the actual intersection of the Goddard Divide with the Sierra Crest near by is improperly marked as "Mount Fiske" on various government maps, although it is scarcely to be considered a peak at all. Meantime the Geological Survey has designated incorrectly the northwestern spur of Mount Darwin as "Mount Wallace."

Solomons has since remarked to me that the remarkably symmetrical pyramid which this peak appears from a distance suggested to him the substantiality and guardianship of the group of evolutionists whose doctrine the Harvard professor so logically upheld for the Western World.

Because this account may indicate to others what novices may do, and because the trip was largely inspired by sentiment, I shall enter somewhat into details and personalities. The ascent itself was no special feat, as it involved no greater hazards than missteps or the falling of loose rocks upon those below.

I had long been enthusiastic over the works of the men for whom these peaks were named, and I deemed it a fitting tribute or personal obligation that my own son John and I should make the attempt for the first ascent of Mount Fiske.

Three boys, John N. Fiske, Stephen B. Fiske, and Frederick Kellett, left Huntington Lake with me early on the morning of August 7, 1922, and with two of Quales' pack-donkeys made our way, via

Camp 62 of the Southern California Edison Company, to our first night's camp at Upper Jackass Flats across from the steam-gauger's hut on the South Fork of the San Joaquin.

The second night's camp was a mile above Evolution Creek. Our route lay through Blaney Meadows, across Piute Creek (which afforded golden trout), and the upper reaches of the South Fork before the latter becomes the North Goddard Creek; the camp-site was opposite the ribbon cascade which trickles down the cliff from Emerald Peak, just visible.

The third day's hike involved another thousand feet of ascent to the Evolution Basin, where we established our two-day "Camp Erythronium" at head of Evolution Lake (11,050 ft.), in a protected ledge ravine at the base of Mount Darwin. Here, near a rivulet, we found very good feed for donkeys and collected sufficient fuel for cooking purposes. One could not walk from camp to lake without stepping upon many so-called dog-tooth violets. Contrary to prevailing ideas, it is worth noting that a comfortable camp for a few persons and animals is entirely practicable at this site. In fact, Solomons camped above Sapphire Lake, and I should not hesitate to camp as high as Wanda Lake, collecting some dead wood for fuel en route.

The steep rise up Evolution Creek afforded superb and ever-changing views of The Hermit, the Glacier Divide, and the valley winding far below. That afternoon, freed of our animals, we reconnoitered the peaks themselves from Sapphire and Wanda lakes to confirm or revise our fireside geography and prepare ourselves for the following day's knapsack climb. Across Sapphire Lake our previously comfortably sloped pyramid now presented cliffs and chimneys above recent avalanches, which seemed rather forbidding to novices. However, as both Spencer and Huxley became less formidable in passing up southward, so Fiske's southern slopes became more inviting as we rounded the higher but less majestic of the two peaks of Huxley.

After photographing the Goddard Divide and Darwin from above and lingering to obtain reflection pictures when ripples disappeared toward twilight, we returned to camp for sorrel salad, oxo-bouillon, crackers, buttered frogs' legs (captured by my youngest son, Stephen, while I was partaking of a cool swim), rice-raisin compote, dried beef in flour cream, gumdrops, dates, sweet chocolate—and



MOUNT HAECKEL, GARD AND MOUNT FISKE (right) FROM SLOPE OF MOUNT DARWIN
Photo by Frederick H. Morley, 1920



LAKE HELEN AND MOUNT FISKE (left) FROM THE SOUTH

Photo by Walter L. Huber

my pipe. Thus far our wild beasts had comprised five rattlesnakes (killed for frightening the donkeys), two badgers, a porcupine, and some chipmunks.

On the morning of the 10th we were up at 4:35, and the temperature, three degrees Centigrade, had something to do with our rising. I am told that our exit from camp at seven A.M., was scandalously late for Sierrans; but I doubt if mountaineers who have followed John Muir quite appreciate the demands, not to say the capacity, of the stomachs of three hungry boys. I venture to say that the average day of our trip could be fairly divided into eight hours of hiking, eight hours of sleeping, and eight hours of feeding—the last, of course, including preparation and cleaning up, but nevertheless the most important activity to the majority of our party of four.

After breakfast we crossed Muir Pass, where we found along the east ridge of Huxley huge boulders and uncomfortably steep snowfields. We persisted in scrambling along nearly a mile of this twelve-thousand-foot contour until Huxley's cliffs dissuaded us, and we dropped down two hundred feet to an unnamed lake whence climbing seemed more feasible. A hundred-foot chimney, with its loose shale, was thereafter about the only interruption in the steady climb to the lower eastern peak. Thence we followed along the saddle to the summit. A third of the way up we discovered an uncharted, but most beautiful, frozen pool which we named "Baby Blue Lakelet."

The summit was found to be one mass of huge boulders very insecurely lodged, so that I would not be surprised at any time to learn that from the action of frost, heavy snow, or some seismic disturbance the upper sixty feet had toppled over the northern precipice in an avalanche. Yet probably the present summit will be found there generations hence.

At the summit is a cavern enclosed by rickety end-up boulders, partly floored by a large flat rock. Two of the boys busily occupied themselves with determining the boiling-point with "sterno" for fuel, and although there was little wind it was difficult to cause water to boil throughout the cup. A properly designed water-boiling thermometer outfit is desirable for such work. The air temperature was fourteen degrees Centigrade and the altitude was estimated at 13,575 feet.

While I was depositing the Sierra Club cylinder register with

proper notations, the oldest son was taking a complete panoramic series of nine exposures. The youngest son volunteered to descend to recover the maps which I had dropped into a deep cavern. I was more anxious, however, to get those boys off that rickety top and get started for base-camp than to recover maps. The descent was simple but tedious, over seemingly unending sharp loose boulders and the already stiff ice-crystal fields along Helen Lake. The thermometer was demolished, but fortunately after its purpose had been served. In the twilight we twice lost the Muir Trail before we reached the pass. Thereafter Stephen, who from Boy Scout-Yosemite trail experience is a good trail-follower, acted as guide and we arrived at camp at nine o'clock.

The remainder of this excursion had to do largely with our second mission, which was to provide the best possible fishing for the boys. Suffice it to say, they were not disappointed.

IN HIGH PLACES

MY mountains, God has company in heaven—
Crowned saints who sing to him the sun-long day.
He has no need of speech with you—with you,
Dust of his foot-stool! No, but I have need.
Oh, speak to me, for you are mine as well—
Drift of my soul. I built you long ago;
I reared your granite masonry to make
My house of peace, and spread your flowered carpets,
And set your blue-tiled roof, and in your courts
Made musical fountains play. Ah, give me now
Shelter and sustenance and liberty,
That I may mount your sky-assailing towers
And hear the winds communing, and give heed
To the large march of stars, and enter in
The spirit-crowded courts of solitude.

HARRIET MONROE

Reprinted by permission of *Poetry* (July, 1922).

THE PEAKS AND PASSES OF THE UPPER BASIN, SOUTH FORK OF THE KINGS RIVER

BY CHESTER VERSTEEG

ON July 31, 1922, Mrs. Versteeg and I left Independence, Owens Valley, by auto stage, carrying with us our camp equipment. Crossing Sawmill Creek north of Independence (8-Mile Ranch), we drove to the foot of the Sierra on the north bank of Sawmill Creek. Here our impressive pack-train of three burros met us. The burro needs no apology; anticipating exceedingly rough and seldom-used trails, we complimented his kind by our choice.

The trail, leaving the creek on a northwest trend, climbs by a twenty-one-hundred-foot, well-balanced zigzag. The full canteen is here essential. Then, turning abruptly southward, it drops on an easy grade to the North Fork of Sawmill Creek. Sawmill Meadow, on the main stream, is a patch of rich alpine green—round as a dollar. Sawmill Pass (11,250 ft.) is most rugged of approach on the eastern side, but comparatively easy on either side. It is a north-south crossing, lying parallel with the Sierra axis. Woods Lake (10,669 ft.) is the center of a group of numerous lakes and tarns—a wealth of alpine waters where thrive a multitude of trout.

On August 5th the writer alone made the ascent of Colosseum Mountain by the southwest face. The final approach is over a six-hundred-yard stretch of gravel pitched at an easy slope. There was no evidence of a previous ascent. A small cairn was built and record left. Colosseum will prove a popular climb, for it commands a considerable panorama from the Sierra Crest and is easy of ascent. The Scottish poet might well have sung of it—

"Laal brag it is for any man
To clim oop Skidder side;
Auld wives and bairns on jackasses
To tippy twop may ride."

The trail to Pinchot Pass is clearly defined and the approaches easy. An intimate view of Crater Mountain (approximately 13,000 ft.) is afforded. An ascent of this mountain, probably the first, was made July 19, 1922, by W. H. Ink, Myers Butte, Frank Baxter, and

Captain Wallace. Our camp, located on a great knoll two miles below Pinchot Pass on the north, seemed suspended in mid-air over the Kings. The moon, filtering its mellow light through ramparts of the Sierra Crest, lit up with ethereal beauty the grand topography of the Upper Basin stretching away far below. Our great fire burned to hot ashes; a near-by, sprawling albicaulis supplied mattress and roof. Through years untold, perhaps, no traveler had here made his camp. I reckon it as one of the wonder-spots of the Sierra.

Bench Lake (10,485 ft.), deriving its name from its topographical setting, its arms outstretched toward the Kings, its guardian, Arrow Peak, standing seemingly at its very head, is a resplendent shining gem in the Sierra crown. (How great the contrast between the senility of the plains and the youthful beauty of alpine lakes set in clean-cut granite shores!) Following a meager trail down the Kings, our party, now increased to four, crossed the latter again at a point where will be found a shake nailed to a tamarack on the opposite (or north) bank and legended "Cartridge Pass." Climbing what was at first a steep but well-defined trail, we arrived on the summit at the unholy hour of six P.M. Darkness overtook us as we again reached the floor of the Kings. After a long climb up the east wall of the Kings, we arrived at camp at ten P.M.

On August 9th our party of two made what is probably the first ascent of Striped Mountain (13,160 ft.). We turned the south wall of Taboose Pass and, reaching the summit, erected a cabin and left a concise record. The following day we made base camp in the Upper Basin.

Let us here most briefly review the known history of exploration in the Upper Basin since Indian times. Captain George M. Wheeler, in fixing the positions of the highest points of the Sierra Crest in 1878, gave the name "Southeast Palisade" to the peak now known as Split Mountain. This is the first mention of any peak of the Upper Basin. When the sheepmen first threaded old Indian trails into this watershed is not definitely known. Possibly, in our resentment at the manner in which the sheepman exploited the Sierra to his own ends, we are prone to forget the debt we owe him for preserving Indian routes and establishing new trails. The perils he faced alone with his flock in combating early snows; the passes he traveled, driven by the whip of dire necessity, years before they were "discovered" by the mountaineer; the profound love he often held for the

A-B Pinchot Pass
C Mount Pinchot

THE SIERRA CREST, LOOKING NORTH FROM COLOSSEUM MOUNTAIN
D-R Mount Perkins
E Striped Mountain
Photo by Chester Versteeg

F Birch Mountain
G Split Mountain
H Broadside Mountain



A

L
K

THE SIERRA CREST, LOOKING NORTH FROM COLOSSEUM MOUNTAIN

A-B. Pinchot Pass
C. Mount Pinchot

D-K. Mount Perkins
L. Striped Mountain

Photo by Chester Vorse

F-I. Cardinal Mountain
G. Split Mountain

H. Birch Mountain
J. Gravel Mountain



NORTHWARD INTO UPPER BASIN FROM FOOT OF PINCHOT PASS
A—Locality of "Cataract Pass"
B-C—"Mather Pass"

D—Middle Fallsade
E—"Twin Peaks"

F—"Alto Pass"

G—"Mount Bolton Brown"

H—"White Mountain"

Photo by Chester Versteeg

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high reaches of the Sierra—all these are unwritten pages of Sierra history.

For the following data covering the first use of the Upper Basin by sheepmen I am indebted to Alfred R. Giroud, of Independence. The sheepmen used both Taboose and Sawmill passes, packing supplies and salt to sheep-camps as early as 1890. The route over Pinchot Pass was known to them.

In July, 1895, Professor Bolton Coit Brown proceeded up Cartridge Creek and followed a sheep-trail over "Red Pass" (now Cartridge Pass), thence down to the South Fork of Kings River. He made the first ascent of Arrow Peak (12,927 ft.), from which he named Split Mountain, Striped Mountain, Red Mountain (now called Pinchot), and "White Mountain" (12,776 ft.), the spur west of Striped Mountain. He returned via the gorge of the South Fork, abandoning his mule and most of his outfit in the gorge.

In 1897 a sheepman (Escallier), caught by snow in the Middle Fork of the Kings in November, worked out of Palisade Creek by what is now known as Mather Pass. He hoisted his burro over a big rock on the north side of the pass, then proceeded via Pinchot and over Sawmill to safety. This was probably the first use of Mather Pass. Le Conte's Sierra map of 1899 gave only meager topographic detail of the Upper Basin.

On July 22, 1902, Helen M. Le Conte, Joseph N. Le Conte, and Curtis M. Lindley left Cartridge Creek by "Frozen Lake Pass," crossed the head of the Upper Basin, and the following morning made the first ascent of Split Mountain (14,051 ft.). Le Conte's revision of No. 3 Kings-Kern Sheet (1904) gave much detail and added several peaks of the Upper Basin, with altitudes. On September 12, 1904, Charles F. Urquhart and two companions of the U. S. Geological Survey made the second ascent of Split Mountain. The section of the Upper Basin contained in the Mount Whitney quadrangle was surveyed in 1905. In 1908 Messrs. Le Conte, Hutchinson, and McDuffie, working out the details of the decade-and-a-half-old problem of a high mountain route from Yosemite to the Kings, stood on the summit of Mather Pass in July, satisfied with the immediate approaches for animals, but dubious about the ascent of a great bench above Deer Meadow below the lower lake on Palisade Creek. Returning, they traveled via Cataract Creek and Cartridge Creek and Pass, thence south via Pinchot Pass.

In 1910-11 that section of the Upper Basin contained in the Bishop quadrangle was surveyed. In 1910 at least two knapsack parties left the main club outing at Rae and traveled via Pinchot Pass, Bench Lake, and Cartridge Pass to Middle Fork of Kings River. In the groups were Edward T. Parsons and Phil Bernays. A Bench Lake record of unknown date bears the name of William E. Colby. In August, 1916, A. R. Giroud stood on the summit of "Cataract Pass," but did not attempt to take sheep or burro across. The same summer he climbed to the saddle of Mather Pass. On both he erected a cairn and left a carved stick as record. Mather was again visited in 1917 by H. Lindlow.

Mr. Robert Barrett, of Cornish, New Hampshire, accompanied by Mrs. Barrett, and traveling with a string of twenty burros, crossed Sawmill Pass in July, 1921. Selecting difficult terrain and untraveled routes, they turned northward from Sawmill, establishing a new, though minor, pass for animals on the route between Sawmill and Pinchot. (See "B" on map.) They chose the entirely unused route over Alta Pass to Palisade Creek, crossing on August 2d. On the north side block and tackle were used once as a precautionary measure in regulating the speed of descent of the animals. Their route followed down Palisade Creek and over the difficult bench referred to. An earthen stairway was built up six feet to the start off the bench and then the animals, packed with only seventy-five pounds each, were slowly and sharply zigzagged down a very steep gully that exists where the bench joins the north wall of Palisade Creek. When the terrain permitted they were deployed along the cañon wall. The bench passage was made on August 9th. This was the first use of Alta Pass and the difficult part of the Mather Pass trail by pack-train. The Hamlin party crossed Mather with pack-animals in late August of 1921. This marks the first crossing of the saddle of Mather Pass with a pack-train. In 1922 the Barrett party, traveling with forty burros, reached the summit of Taboose Pass by the detour marked "D" on the map, avoiding the snows to be found at the head of Taboose Creek in early summer. They traveled north over Mather. At least four passages to date with large animal strings establish Mather Pass as a feasible route.

Having thus defined the few trails that have crossed the Upper Basin since 1890, let us return briefly to our base-camp. From this camp we climbed Split Mountain. From 1910 to 1921 no ascents

were recorded. Mrs. Barrett is the second woman to climb the mountain, and Mrs. Versteeg the third. These records establish the past isolation of the peaks of the Upper Basin. At camp we were welcomed by Val Ellery, of San Diego, and Rudolph Berls, of Los Angeles, who had arrived that day as per schedule. They had made the fourth ascent of Arrow Peak en route.

The next day was spent in part in climbing to the summit of "Frozen Lake Pass" where a cairn was erected and a brief record left of its first use in 1902. We then climbed north to "Cataract Pass." Scouting down the Cataract watershed to the head of a talus-fan, we established the feasibility of the pass for good knapsackers, but its present impossibility for animal use. We left a record and presumed to name the pass as designated. Continuing southward, we made what is probably the first ascent of "Cataract Peak," a very easy climb from the pass. A sunset swim in the large lake east of "Cataract Pass" closed the day's activities. That night, while we were placing constellations in the southern heavens, there suddenly flashed across the sky, clearly visible in that clarified atmosphere, the meteor of August 12th, as large as "a San Diego grape-fruit." It wobbled perceptibly from its course, broke into three distinct pieces, and was snuffed out before reaching the horizon.

On the morning of August 13th Mrs. Versteeg, Mr. Berls, and Mr. Ellery made the ascent of Cardinal Mountain via a very steep and narrow arête of shattered pinnacles on the southwest spur of the peak, and thence, by a comparatively easy grade, to the summit. George Downing, Jr., had made the first ascent on August 11th, but two days before. On the following day Mr. Berls climbed Split Mountain while the writer made an unsuccessful attempt on peak 13,601, north of Split. Meeting at the saddle, we proceeded northward into the utmost head of the Upper Basin on the ascent of peak 13,527. We were diverted from the ascent for a time by the discovery of a partially ducked trail that in places appeared to be recently traveled. We followed it to a logical conclusion well over the saddle to the north. A small cairn was erected and a record left on Alta Pass. (We were not aware then of the circumstances of its first use.) Approximately 13,250 feet in altitude, it vies with Diaz and Junction for the honor of being the highest known animal pass on the North American Continent.

Traveling due eastward, hugging the top of the crest, we reached

the junction of Cirque Crest with the Sierra axis. Climbing up a narrow black chimney of thirty yards length, we emerged on top of the rock-mass, only to find the true summit was a knife-edge jutting twelve yards to the east. Alternating on one side and then the other of the knife, the last few steps along a narrow ledge on which two people could not have passed, we stopped, not on, but beside, the summit-rock. It stood less than shoulder-high above us. It was impossible to stand on this splinter. We patted it affectionately and on its summit erected a wee cairn containing the following record:

Alt. of this mountain is 13,527. It stands at the junction of the Sequoia, Sierra and Inyo Nat. Forests. We hereby name it "Mt. Bolton Brown" in honor of Bolton C. Brown, of the Sierra Club, who was the first to explore, map and write of the Upper Basin of the So. Fork of the Kings River

to which was added date and names. The splinter stands sheer on all sides except the west approach. It actually leans over to the south. Our foot-shelf was on the north. At dusk we turned downward and southward for the six-mile trek to camp. Mental distraction is a peculiar virtue of mountaineering. We unconsciously acknowledged this in the happy performance of sustained physical effort on the return.

Bidding farewell to Berls and Ellery, we crossed over Mather, leaving thereon a record of the name given by the Hamlin party, with a statement of its presumed discovery in 1908. Two days of scouting established the north approach of Alta Pass and the route used down Palisade Creek. On the return I worked from the saddle of Mather Pass, along the north slope of Cirque Crest, to the summit of the "Twin Peaks." A small rock cairn found on a ledge on the north point was transferred to the summit rock and a record left therein.

Our return route was down the steep, rocky, but clear trail of Taboose Creek and via McMurry Meadows to Big Pine. And so again—

"At evening when the crimson crest
Of sunset passes down the West,
I hear the whispering host returning;

.

I see the lights, I smell the smoke—
The camp-fires of the Past are burning."

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SIERRA CLUB

Founded 1892

402 MILLS BUILDING, SAN FRANCISCO, CALIFORNIA

Annual Dues: \$4.00 (first year, \$5.00)

THE PURPOSES OF THE CLUB ARE:

To explore, enjoy, and render accessible the mountain regions of the Pacific Coast; to publish authentic information concerning them; to enlist the support and co-operation of the people and the Government in preserving the forests and other natural features of the Sierra Nevada.

JOHN MUIR, President 1892 to 1914

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SIERRA CLUB BULLETIN

Published annually for the members

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EDITORIALS

CHANGE OF EDITORSHIP In committing the editorial helm of the SIERRA CLUB BULLETIN to the competent hands of my friend and former associate on the editorial staff, I wish to bespeak for him the loyal support of all those who in years gone by have so faithfully assisted my co-workers and me. When the combined pressure of administrative duties and the overdue completion of certain literary work compelled me to withdraw from time-consuming responsibilities in connection with the club, the choice of the Directors, after careful deliberation, fell upon Mr. C. Nelson Hackett, and he generously consented last autumn to assume the duties of editor-in-chief. The present number of the BULLETIN has been edited by him and his associates and needs no comment as to its quality. In laying down my office I feel prompted to express to my former staff associates my warm appreciation of their loyal co-operation through many years. Among those longest in service should be mentioned William E. Colby, Marion Randall Parsons, Joseph N. LeConte, Walter L. Huber, and, more recently, Francis P. Farquhar, and the new editor. As a matter of record, let me state that my work as Book Review editor covered the period of six years, from 1904 to 1909. In 1910 I succeeded Mr. Elliott McAllister as editor-in-chief, and have held the office continuously during the following years, thus completing a period of somewhat more than eighteen years of service on the BULLETIN. It should be added that during at least one sojourn of a year abroad the responsibilities were carried by my associates. The BULLETIN now holds an enviable place among the mountaineering journals of the world, and it was team-work that has made it what it is. May my successor fall heir to the same generous and willing co-operation! In saluting the new pilot, I wish him *bon voyage!**

WILLIAM FREDERIC BADÉ

THE PROPOSED ROOSEVELT-SEQUOIA PARK AND FAIR PLAY

The gross exaggeration and misinformation which have recently been spread broadcast regarding the proposed extension and change of boundaries of the Sequoia National Park serve to emphasize the danger and downright wrong which may result from reckless and unfounded criticism. Uninformed readers are led to believe that a band of thieves composed of the Park Service, the Forest Service, and organizations like the Sierra Club is conspiring to plunder the magnificent regions which, for over a quarter of a century, these bodies have, at great sacrifice of thought and time, been endeavoring to preserve. Such unqualifiedly false statements are being made as that "the sequoia eliminated from the existing park are to fall prey to the woodman's

* **EDITOR'S NOTE.**—While keenly regretting the resignation of Dr. Badé, members of the club will feel a compensatory satisfaction when informed that it is chiefly due to Dr. Badé's desire to complete his life of John Muir.

axe," and the great area to be added to the park, instead of containing some of the most magnificent forests and stupendously impressive scenery to be found on the face of the globe, is degraded with the false and misleading designation "barren and inaccessible." The only fact in mitigation of this mass of untruths is that those who are most vociferous in their condemnation have the least personal knowledge of the regions in question. The record of achievement and integrity of the Forest Service and Park Service and of the various organizations which have indorsed this proposed extension is such that they require no vindication from these false imputations of ulterior and fraudulent motives.

The very bitterness of these unfounded attacks makes the whole situation more difficult of adjustment. No self-respecting individual feels inclined to recede from the stand which he has taken as the result of honest conviction while these unwarranted charges are being so recklessly made. It will require a rare nobility of mind, and the placing of public welfare above personal feeling, to bring about a readjustment in the midst of this unfavorable atmosphere which has been created. Few stop to ascertain the real facts which brought about the elimination of these three townships from the bill which was pending before the last Congress. It was the result of an attempt to reconcile genuine differences of opinion which had existed between two branches of the government service. The proposed area to be added to the existing park is recognized by those who have visited both regions as being infinitely more worth including in a national park. It is vastly more important to preserve the Kings River Cañon, Tehipite Valley, Paradise Valley, Simpson Meadows, and Grouse Valley from destruction threatened by proposed electric-power development than to retain the three townships in question within the existing park. If legislation designed to protect this magnificent scenery shall fail in the future because of the opposition which has been stirred up regarding the southern townships, a tremendous responsibility will fall upon those who have led in this opposition. There is daylight ahead, however, and it is hoped that before another Congress meets a basis of adjustment which will be acceptable to all will have been reached.

And this leads to another thought. Is there not too great a tendency these days to criticize and find fault? It is so much easier to tear down than to build up. Constructive suggestion and effort necessitate the expenditure of real gray matter. Not so with the picking of flaws in another's constructive work. The Park Service and the Forest Service have on different occasions been made the object of criticism, much, it is true, that was well intended and some which may have had considerable basis of merit. But while engaged in the delightful occupation of "throwing stones" we are prone to overlook the vast amount of good which these institutions are accomplishing, and for which they are equally entitled to due credit and the highest praise. In most cases greater good can be accomplished by hearty co-operation and broad-minded, constructive criticism, rather than by petty and microscopic fault-finding. The former does not breed resentment and heart-burning. The latter defeats its own ends. Let us continue to criticize where criticism is justified, but also let us give credit where credit is due.

W. E. C.

CLIMBING TO THE TOP OF THE WORLD The highest point on the earth's surface, the summit of Mount Everest (commonly stated to be 29,002 feet, lately estimated to be 29,141 feet in elevation), still defies human effort. The fascinating account of the reconnaissance of 1921 is reviewed elsewhere in these pages. The real attempt to scale the peak made in 1922 must thrill everyone who has a drop of mountaineering blood coursing in his veins. It is the greatest event in the annals of mountaineering. The world's record had previously been held for many years by the Duke of the Abruzzi, with the altitude of 24,600 feet on Brides Peak in the Himalayas to his credit.

The first party, led by Mallory, reached an elevation on Mount Everest of 26,800 feet without the artificial use of oxygen. The second party of two, led by Finch, carrying forty pounds each and using oxygen apparatus, reached an elevation of approximately 27,300 feet. They were within half a mile in distance of the summit, and with no great climbing difficulties intervening. Further attempts to reach the summit were prevented by monsoon weather, which came on earlier than expected. From a scientific standpoint, and aside from the purely sporting feat of attempting to climb the highest mountain in the world, much valuable experience was gained. The rather decided difference of opinion held by the two climbing parties as to the policy of using oxygen is most interesting. Those who climbed without oxygen reported that they had felt "no special distress." The use of oxygen, though of great assistance, is held by many not to be "legitimate" mountaineering. The general conclusion of those who attempted the climb is that the summit is "probably attainable." The major problem is whether base camps can be established at a high enough elevation, possibly close to 27,000 feet. The topography of the main peak would seem to permit of this. Much depends upon the ability of the native porters to climb to this elevation. Those employed in 1922 proved to be remarkably reliable, and, carrying their loads, climbed repeatedly to the highest base camp made that year at 25,500 feet. At this camp water boiled at such a low temperature that the hand could be held in it without scalding. One of the encouraging factors is that the difference in atmospheric pressure at these great heights is not great, so that the rarity of the atmosphere at the highest point attained, about 1800 feet below the summit, would not differ appreciably from the summit condition. The members of this expedition, and particularly the climbers, are deserving of the highest praise for their fortitude and courage. Another expedition, which will profit by the lessons of the past, will probably again make the attempt in 1924.

W. E. C.

WATER-POWER SITES While the Sierra Club is not opposed to the development of natural resources in national parks in case of a public necessity, we believe there can be no justification for certain filings for water-power within the proposed Roosevelt-Sequoia National Park. The club's view was presented in a brief which, for the information of our readers, is published in this issue.

REPORTS OF COMMITTEES



TREASURER'S REPORT

To the Directors of the Sierra Club:

The following report on the finances of the Sierra Club for the year ending December 31, 1922, is respectfully submitted.

JOSEPH N. LE CONTE, Treasurer

<i>Received:</i>		GENERAL FUND
Dues from 392 new members, at \$5.00 each	\$	1,960.00
Dues from 1783 old members, at \$3.00 each		5,349.00
Total dues received		\$ 7,309.00
Advertising in SIERRA CLUB BULLETIN and Local Walks Schedule		367.00
Sublease of Room 403, Mills Building		240.00
Interest on Liberty Bonds		90.00
Interest on savings-bank accounts		107.04
Income on War Savings Stamps		92.00
Sale of song-books		5.35
Sale of BULLETINS		65.00
Income from telephone		7.25
Sale of pins and postage stamps		51.40
Total received		\$ 8,334.04
<i>Expended:</i>		
Office rent	\$	900.00
Salary of Assistant Secretary		1,200.00
Total cost of 1922 BULLETIN, printing and cuts		2,193.03
Distribution of BULLETIN, postage and mailing		240.75
Cost of securing advertisements		90.00
General office expenses, postage and stationery		558.19
Telephone service and telegrams		175.86
Proportion of dues to Southern California Section		1,067.00
Expense of Le Conte Lodge		289.58
Printing of circulars and notices		85.25
Expenses for "Save the Parks" movement		100.17
Local walks expense		439.00
Traveling expenses of directors to meetings		175.00
Contribution to Shasta Lodge		250.00
Purchase of Soda Springs certificate		100.00
Election expense		213.35
Purchase of club pins		55.92
Taxes on clubroom and Soda Springs property		51.05

Dues to other clubs	25.00
Transfer of bond interest to Memorial Lodge account . . .	47.50
Library additions	22.43
Annual banquet	38.00
Extra stenographic help	21.25
Express charges	21.14
Sundry small expenses	26.75

Total expended	\$ 8,386.22
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Summary:

Total received	\$ 8,334.04
Balance January 1, 1922	3,866.00

Total	\$12,200.04
Total expended	8,386.22

Balance December 31, 1922	\$ 3,813.82
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On hand:

First National Bank, cash	\$ 157.28
Mercantile Trust Company, Savings Union Branch, cash . .	818.35
Security Savings Bank, cash	2,813.19
Cash in office	25.00

Total	\$ 3,813.82
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Received:

PERMANENT FUND

From new life memberships, at \$50 each	\$ 150.00
Interest on savings-bank account	28.76
Part interest on Liberty Bonds	42.50

Total received	\$ 221.26
Balance January 1, 1922	2,712.68

Balance December 31, 1922	\$ 2,933.94
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On hand:

Liberty Bonds: Third 4¼%, par value	\$ 1,000.00
Liberty Bonds: Fourth 4¼%, par value	1,000.00
Security Savings Bank, cash	933.94

Total	\$ 2,933.94
-----------------	-------------

On hand:

ROBERT S. GILLETTE FUND

Victory Bond: Fifth 4¼%, par value	\$ 1,000.00
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On hand:

SPECIAL MEMORIAL LODGE FUND

Securities at par value of	\$ 2,000.00
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Reports of Committees

433

<i>Received:</i>		MEMORIAL LODGE CURRENT FUND	
Interest on Robert S. Gillette Fund	\$	47.50	
Interest on Special Memorial Lodge Fund		93.75	
Total received	\$	141.25	
Balance on hand January 1, 1922		152.42	
Balance on hand December 31, 1922	\$	293.67	
<i>On hand:</i>			
Wells Fargo Nevada National Bank, cash	\$	293.67	

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SECRETARY'S REPORT, 1922

To the Members of the Sierra Club:

While the Barbour Bill, providing for the enlargement of the Sequoia National Park, did not pass at the last session of Congress, though reported favorably by the Public Lands Committee of the House, this bill will be reintroduced at the earliest opportunity during the next session, and we trust that it will not be long thereafter before John Muir's wish to have this incomparable mountain region protected by national park boundaries will be fulfilled.

The very objectionable Mescalero Bill, providing for the establishment of a national park in New Mexico, fortunately failed of passage, as did also the Appalachia Park Bill, having for its object the creation of a national park embracing certain mountainous land in Virginia, neither area having outstanding national significance.

During the past year, by vote of the club, the number of its directors was increased to fifteen. A complete revision of the by-laws has also been approved by the board for submission to a vote of the club.

The stone shelter-house erected at Horse Camp on Mount Shasta, through the generosity and able supervision of Mr. Hall McAllister is now completed. The club contributed a small portion of the funds and lent its name to this commendable project. It is hoped that some time during 1923, probably about the Fourth of July, this rest-house will be dedicated.

During the past year 395 new members were added, and 229 members were dropped from the list due to death, resignation, or non-payment of dues, so that the total membership was 2590 at the beginning of the year 1923.

Respectfully, WM. E. COLBY, Secretary

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REPORT OF 1922 OUTING

During July and early August of 1922, the Sierra Club conducted an outing that in many ways will mark the zenith of achievement for its annual outings. Owing to the tremendous number of applicants, the Outing Committee increased the size of the party to the ultimate limit, there being some 240 regular

members, and when the camp help, packers, and other assistants were counted in, the total size of the party was well up toward three hundred in number. Special trains from Los Angeles and San Francisco arrived at Lemon Cove early in the morning and through the courtesy of Colonel John R. White, superintendent of the Sequoia National Park, the right of way for the numerous stages was arranged so that a large portion of the party had arrived before noon in the superbly situated camp-site at Crescent Meadows, which Colonel White had also set aside for the club's use on that occasion. Remaining here long enough to inspect the wonders of this majestic grove of sequoia, the party moved to Alta Meadows to spend a never-to-be-forgotten night on that wonderful shoulder of Alta Peak, commanding a superb view of the higher mountains beyond across the main cañon of the Kaweah. On the day following, the party reached Redwood Meadows, making another over-night camp in the beautiful grove of Big Trees surrounding the meadow. The next camp brought us to the head of Cliff Creek, where the party remained an extra day in order to visit near-by points of interest.

Crossing Black Rock Pass, a brief stay was made in Little Five Lake Basin. Here the party enjoyed some of the finest trout-fishing of the entire trip. In the lower of the lakes in the Big Five Lake Basin, the golden trout planted by the club in 1912 were found to have thrived and multiplied to an amazing degree. Some of the public-spirited members of the club assisted in doing some additional planting. Several members of the party climbed the Black Kaweah, the first ascent of which had been made two years previous (see vol. xi, No. 2, *SIERRA CLUB BULLETIN*). Crossing the Big Arroyo, a few days were spent beside Moraine Lake on Chagoopa Plateau, and a large number of the party climbed the main Kaweah. Descending into the Kern River Cañon, the next camp was at Junction Meadows, and then a base-camp at Crabtree Meadows was established for the climb up Mount Whitney. It was a notable day in the annals of the Sierra Club when 204 members of the party climbed to the summit of this highest mountain in the United States (14,502 feet elevation). Continuing on to a camp near timber-line on Tyndall Creek, the party then crossed the Main Crest of the Sierra via Shepherd Pass and descending for a short distance on the eastern slope of the Sierra turned sharply upward again and crossed Junction Pass, an elevation of some 13,300 feet, also on the Main Crest of the Sierra. This was one of the great achievements of the outing, to have so successfully crossed these two high passes in one day with the pack-train and all the equipment of so large a party.

A brief stay was made at Vidette Meadows, from which central point a number of short side-trips were taken. The next camp was made in the main Kings River Cañon, and it was a genuine pleasure to recall the delightful occasions when the club on earlier outings had been camped at this beautiful spot on the south fork of the Kings River near the mouth of Copper Creek. At the cordial invitation of our fellow member, Mr. Jesse B. Agnew, the club visited the cattle-camp at Horse Corral Meadow, belonging to Mr. Agnew and Mrs. Zumwalt. Never shall we forget the barbecue which in his generosity he had prepared for us. A whole yearling roasted in a pit in inimitable style, together with great cartwheel loaves of golden-brown bread baked in an im-

mense Dutch oven, made a feast that would be impossible to duplicate. This was courageous hospitality to feed nearly three hundred people whose appetites had been whetted by a whole month of mountain travel.

Returning to Giant Forest, we found that Colonel White was again the generous host and had prepared a camp for us on the Marble Fork of the Kaweah. The unique camp-fire ceremonies presided over by Mr. Larson and the truckload of watermelons presented by Mr. Askin, the manager of the stage-line, brought this extraordinary trip to a fitting close. No accidents of a serious nature occurred to mar our enjoyment.

The outing for 1923 is planned for the northernmost portion of the Yosemite National Park. The party will start about July 6th, returning to San Francisco and Los Angeles about August 4th. Advantage will be taken of the recently constructed trail into Pate Valley, which is in the heart of the Grand Cañon of the Tuolumne. The party will move in a great circuit, visiting en route some of the most magnificent and attractive features of the Yosemite National Park. Members of other mountaineer clubs and their relatives are especially welcome to join this outing and gain a comprehensive knowledge of one of our greatest national parks.

OUTING COMMITTEE,

Per Wm. E. Colby, Chairman

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LE CONTE MEMORIAL LODGE—SEASON OF 1922

The Le Conte Memorial Lodge was open to the public from mid-May to mid-August, and, to a greater extent than ever before, proved popular to the large number of visitors who made use of the library, photographs, and other features of the institution. As the travel into the Yosemite increases, the attendance at the Le Conte Lodge proportionately grows; over five thousand signatures appeared on this season's register, and, of course, there were many visitors who did not sign.

The Le Conte Memorial Lectures given in the Yosemite this year covered subjects of particular interest to visitors and were well attended. The lectures were divided into four groups: Early History of the Yosemite Region; Geological Aspects of the Sierra; Nature and Art; California's Animals of the Past;—given respectively by Prof. H. E. Bolton, Prof. Geo. D. Louderback, Mr. Eugene Neuhaus, Prof. Loye H. Miller. The groups of lectures (each comprising three) were delivered alternately at the Government Pavilion in Yosemite Village and at the Le Conte Memorial Auditorium, the beautiful open-air log auditorium situated several hundred feet east of the lodge.

The library of the lodge, though slowly growing, is not yet of desirable size and quality; there are not enough books of natural science—especially few books pertaining to the Yosemite itself. However, several very valuable additions to the library were received this year, the most important being a five-volume edition of the "Library of Natural History," a handsome set, profusely illustrated. This interesting work was donated by Mr. W. H. Martin, of Monrovia, California. Mrs. W. L. Adams gave the following: three volumes of Haeckel, seven volumes of Darwin, and three works of fiction. The Nature

Guide Service loaned a series of reference-books during the summer. Mr. Martin also gave thirteen standard novels.

Through the efforts of Mr. M. Hall McAllister, a light Ford truck was supplied, which proved very useful.

Mr. F. C. Holman kindly undertook to supply and plant twenty roots of Boston ivy about the lodge. When the ivy grows up on the stone walls the effect will be most beautiful and picturesque. ANSEL E. ADAMS, Custodian.

NOTES AND CORRESPONDENCE

NEWS ITEMS FROM THE SOUTHERN SECTION

By C. J. Fox

Membership in the Southern Section has been growing steadily. Schedule trips have been well attended. There was an average of fifty-six persons on each of the fifteen regular trips during the fall. The Hallowe'en trip to Wheeler's Hot Springs appealed to 175 persons, and Collins Ranch brought out 104 persons, the majority in each case driving out in their own machines. The first trip of the fall was a four-day automobile tour to Bakersfield, Greenhorn Mountains, Sunday Peak, Mohave Desert, and Red Rock Cañon.

The regular Wednesday luncheons, newly scheduled at the Broadway Café, have exceeded the expectations of the committee. Many times there are thirty to fifty present, and a closer fraternity among members is thus accomplished.

During the year the club has offered three stereopticon lectures to members and to the public without charge. Mr. Hazzard, a Mount Ranier guide, spoke on "The Peaks of the Northwest." Mr. Francis M. Fultz spoke on "Southern California Trails and Flowers." Mr. Wylie showed the attractions of Yellowstone National Park and Bryce Cañon, and Mrs. Hinshaw, F. R. G. S., presented the "Mountainous Interior of Vancouver Island." The usual attendance is about two hundred persons.

The Southern Section was greatly favored during the New Year's holiday by a three-day visit from club members from San Francisco and the bay region, including William E. Colby and Joseph N. Le Conte. W. J. Aschenbrenner assisted in arranging the excursion. Another guest was Colonel John R. White, Superintendent of Sequoia and General Grant national parks. Some of the features of entertainment carried out by Chairman Phil S. Bernays and his reception committees were luncheon at Beverly Hills Hotel, inspection of the Douglas Fairbanks studios, dinner at the Ebell Clubhouse (attended by nearly two hundred persons), followed by a revue entitled "High Sierra High," written and staged by the Misses Mortimer and given by a cast of southern California members, presenting the delights and the hardships of traversing the high regions. A trip to Mount Lowe and the climb of San Gabriel Peak, and on New Year's day a view of the Pasadena Tournament of Roses, completed the round of events. We trust the visitors will come again and bring other members.

Due to the peculiar situation of the interests of Los Angeles City in the section proposed for the enlarged Sequoia-Roosevelt National Park, there has been much interest in the Barbour Bill, and both individuals and groups have been active for its passage.

A few miscellaneous items of interest are as follows: As Barley Flats, back of the Mount Wilson Range, has but two springs, and as these have a tendency to stagnate during the summer, the Executive Committee voted sufficient funds

to a committee to install a permanent covered cement box for one of them. The work is now finished. As the ascent of Mount San Antonio (10,500 ft.) has proved strenuous for a day's trip, especially in winter, the Trails Committee has been successful in procuring a log cabin about half-way to the summit. This will be improved and fitted up for overnight stays. This peak is snow-covered about five months during the winter, and as the base of it at Camp Baldy is but three hour's ride from Los Angeles, a magnificent snow region will be more accessible. The amount of one hundred dollars to buy the cabin was donated by a good member.

The Southern Section made an initial entry of a float in the Pasadena Tournament of Roses. Over a genuine fire a real hiker had tarried to flap some real flapjacks. A twisted wind-blown pine was overhead and dunnage-bags were strewn about. Several members carrying pack outfits followed a zigzag trail behind.

The key to Muir Lodge is kept at Fern Lodge (public camp), but a ten-minute walk below our lodge. Any member may get the key without notice or charge by signing the register. The lodge and premises are kept in attractive condition by the week-end parties and by the House Committee. Although Muir Lodge has not often drawn upon the club funds for building or maintenance, yet it is club property. Some seven hundred dollars has lately been spent for more locker space, etc., and a small amount was borrowed from our treasury. At the ninth anniversary of the lodge, last November, a party of sixty-five strolled up the six-mile trail and spent the evening about the big fireplace, roasting chestnuts and enjoying an impromptu program. More than one hundred members now have lockers there. We hold three government sites, which provide ample open spaces and prevent erection of other cabins at close range.

The Executive Committee is co-operating with the Save-the-Redwoods League, Wild-Flower Club, Audubon Society, Supervisors of the Angelus and Cleveland national forests, and other conservation agencies. The committee meets the first Monday of each calendar month at headquarters, 445 Wilcox Building, and welcomes any helpful suggestions made in person or in writing as to the activities and the policies of the Southern Section.

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SHASTA ALPINE LODGE

The plans for the Shasta Alpine Lodge were completed during the early spring of 1922, and the materials, consisting of cement, metal roofing, wired glass, steel window-frames, and ironwork, were purchased in San Francisco and shipped by rail to Sisson during May.

An inspection party of some six persons, including representatives of the Sierra Club, town of Sisson, U. S. Forest Office, and others, visited the Horse Camp (8000 feet) on June 16th, and after several sites were discussed a final decision was made and a one-hundred-foot square was measured off in accordance with the lease to the Sierra Club from the Southern Pacific Company (Central Pacific Land Co.), who granted the club ten years, to September, 1931, at a rental of one dollar per year.



MOUNT SHASTA LODGE
Constructed in 1922



"Life offers one thousand dollars for the best title to this picture"!

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The outlook from the lodge takes in the Sacramento cañon and valley, and sweeps in a grand arc from Mount Lassen in the southeast by Castle Crags, Mount Eddy, Scott Mountains to the Trinity Mountains in the west.

Camp was opened July 1st and the pack-train of ten horses and two packers immediately started to work. Ten men constituted the construction crew, consisting of one master stone-mason, three stone-mason helpers, one carpenter, two carpenter helpers, one messenger and timekeeper, one superintendent, and one camp cook.

A bountiful flow of clear ice water was piped some two thousand feet to the site. Work progressed satisfactorily, but very slowly, because of the illness of the master stone-mason. The walls were completed the middle of September and the roof finally placed in a heavy snow-storm the first day of October.

The lodge consists of one room, fifteen by thirty feet, with concrete floor, a large fireplace, log rafters, and metal roof. The furniture will comprise twelve wooden benches, eighteen inches wide and seven feet long, the same as those used in the Swiss Alps. These can be placed in pairs and used at night as couches. There will also be a small desk, a register, a medicine chest, a thermometer, a flag, and a rack containing shovel, pick, axe, broom, and rope. It is planned to have a Forest Service telephone line, connecting with Sisson.

The lodge complete, without furniture, cost \$6,725, and was paid for as follows:

Sierra Club	\$ 500.00
Sisson	500.00
Weed	250.00
Redding	250.00
Dunsmuir	200.00
Mr. Harry Babcock	25.00
Mr. Hall McAllister	5,000.00
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Total	\$6,725.00
Donations valued at	275.00
<hr/>	
	\$7,000.00

There were several donations of material. The cement was furnished gratis by a friend of the club, who requested that his name be withheld. Mr. John McLaren, of Golden Gate Park, San Francisco, provided some handsome concrete benches for outside the lodge. Forest Supervisor Jesse R. Hall has received the thanks of the club for his generous help in receiving and forwarding the material, furnishing the tents and camp outfit, and assisting generally in the success of the enterprise.

Notice to the public is hereby given that the lodge is for the use of the general public, especially those who are climbing Shasta; it being understood that anyone camping in the lodge must make room for any hiking party or climbing party which comes to the Horse Camp for the usual one-night stop.

The lodge is located at the Horse Camp (8000 feet elevation) and eight miles from Sisson. The auto road covers the first three miles, leaving five miles to hike or ride horseback. Any party wishing to make the trip can obtain in-

formation or guides at the Chamber of Commerce or Forest Office at Sisson. Water should be carried, as after leaving Sisson there is no water until one reaches the Horse Camp.

M. HALL McALLISTER

MOUNTAIN CLIMBING NOTES

BY RALPH ARTHUR CHASE

BLACK KAWEAH (13,752 feet) was scaled on July 18, 1922, by Mr. Robert Fitzsimons, going up singly, followed two hours later by Mr. Ralph Arthur Chase, also alone. They were respectively the sixth and seventh persons to climb this forbidding-looking peak, formerly considered invulnerable. (See SIERRA CLUB BULLETIN of 1921 at page 118; also same for 1922 at page 311.) On July 19, 1922, Mr. William E. Colby, Mr. Haskell, Mr. Richard Michaelis, and Mr. Norman Clyde ascended together. Due to the danger of falling rocks in the narrow chimney that makes the only known route of ascent and descent of this treacherous and disintegrating peak, parties should not be greater in number than four persons, and there should not be more than one party on the mountain at the same time.

MILESTONE MOUNTAIN (13,643 feet). This peak was ascended July 23, 1922, by Mr. Ralph Arthur Chase alone, by first climbing to the summit of Milestone Mesa (13,560 feet)—not so named on map, but a memorandum in a glass fruit-jar in a cairn on this summit suggests this name, by analogy to Diamond Mesa—and then descending to the knife-edge saddle forming the north wall of the upper part of Milestone Bow (or Bowl) (lower part of this bowl leading up to Colby Pass), and then under the south face of Milestone Mountain to the ridge whose main axis points southwesterly and finally includes Colby Pass; thence up this ridge as it trends northeasterly the last several hundred feet to the cairn. From the record on the summit, no one had been there since Mr. Farquhar and two fellow-members the August previously. (See SIERRA CLUB BULLETIN of 1922, page 313.) Prior to their climb the only names shown on the record of this isolated mountain, were those of the group who made the climb with the club in the outing of 1916. Where he first came to the rock ridge, three hundred feet below the summit, Mr. Chase found a sealed can of beans, with the ordinary blue-and-yellow label, the wrapper intact. Mr. Farquhar denies that he or any other good knapsacker would pack canned beans to the summit of a mountain. Whose were they?

MOUNT WILLIAMSON (14,384 feet) was climbed by four members on July 26, 1922, the same day the main group of two hundred and four climbed Mount Whitney. Mr. Robert Fitzsimons, climbing alone from George Creek, arrived at the summit first, and was soon followed by Mr. Rennie's party, consisting of Mr. James Rennie, Mr. Ralph Arthur Chase, and Mr. Walter L. Huber, in the order named.

MOUNT TYNDALL (14,025 feet) was climbed the afternoon of the day they descended from Mount Williamson near by (July 26, 1922) by Mr. Robert Fitzsimons and Mr. Ralph Arthur Chase. The ascent was made by using the rock slope west of the upper lake on the northeast side of the mountain; the descent by the thousand-foot snowfield on the Tyndall Creek side.

BRIEF ON WATER-POWER SITES

STATEMENT OF FRANCIS P. FARQUHAR, OF SAN FRANCISCO, CALIFORNIA, REPRESENTING THE SIERRA CLUB; IN OPPOSITION TO CERTAIN APPLICATIONS FOR WATER-POWER SITES ON THE KINGS RIVER, CALIFORNIA; AT FRESNO, CALIFORNIA, MAY 25, 1922.

TO: THE FEDERAL POWER COMMISSION,
Represented by Mr. F. H. Fowler,
District Engineer, U. S. Forest
Service, Department of Agriculture,

AND

THE STATE OF CALIFORNIA,
Represented by Mr. H. A. Kluegel,
Chief of Division of Water Rights,
Department of Public Works.

1. The Sierra Club was organized and incorporated in 1892 for the following purposes:

To explore, enjoy, and render accessible the mountain regions of the Pacific Coast; to publish authentic information concerning them; to enlist the support and the co-operation of the people and the Government in preserving the forests and other natural features of the Sierra Nevada Mountains.

Its principal place of business is at 402 Mills Building, San Francisco, California. Its members number at present something over two thousand.

2. The Sierra Club opposes the applications of the city of Los Angeles for water-power sites on the Kings River located within the boundaries of the proposed Roosevelt-Sequoia National Park, as described in the so-called Barbour Bill (H. R. 7452), now pending in Congress. The text of these applications is not at hand, but it is understood by the club that the following sites are included:

- a. Simpson Meadow, Middle Fork Kings River.
- b. Tehipite Valley, Middle Fork Kings River.
- c. Paradise Valley, South Fork Kings River.
- d. Kings River Cañon, near Copper Creek.
- e. Kings River Cañon, Cedar Grove.
- f. Kings River, at junction of Middle and South Forks.

These sites are indicated approximately on the maps furnished herewith.

3. The principal grounds for our opposition are as follows:

a. This region is one of unusual beauty and grandeur, supremely adapted to the purposes of a national park; and of greater value to the nation, the state, the people of the San Joaquin Valley, and even to the city of Los Angeles, as a national park than as a source of hydro-electric power.

b. The conception of establishing a national park in this region, including the cañons of the Middle and South Forks of Kings River,

antedates by many years the applications for power sites, and indeed was almost consummated when these applications suddenly appeared as a hindrance.

c. The purposes for which national parks are established are inconsistent with the use of any portion of the parks for such developments as are contemplated in these applications for water-power sites.

4. The present bill to establish the Roosevelt-Sequoia National Park is merely the latest step in a movement begun many years ago to bring this region of the Sierra Nevada into the national park system. During the past few years this movement has spread to all parts of the United States as the character of the region has become better known. In January, 1919, following the death of Theodore Roosevelt, it was proposed in the Senate to make this park a memorial to the late President. The remarks of Senator Phelan of California made on this occasion are appended. It was also warmly advocated by the late Franklin K. Lane, formerly Secretary of the Interior. The memorial proposal has been widely indorsed and has the sanction and support of the Roosevelt Memorial Association through its president, Colonel William Boyce Thompson, whose statement appears in a report of the House Public Lands Committee hearing on December 13, 1921.

5. The Phelan Bill passed the Senate on January 16, 1919. It was similar in most respects to the present Barbour Bill, but provided for more extensive boundaries than those now proposed. Some features of these boundaries were not satisfactory to the Forest Service, however, and the Secretary of Agriculture wrote to the House Public Lands Committee requesting that action be deferred until further investigation of the boundaries. The bill, therefore, was not brought to a vote in the House of Representatives. During the summer of 1919, an attempt was made to reach an agreement between the Forest Service and the Park Service, but it was not until the spring of 1921 that the two services agreed upon the boundaries as now proposed.

6. Upon the convening of Congress in 1921, Representative Barbour introduced his bill (H. R. 7452), which was referred to the Committee on Public Lands. A hearing was held before the committee on December 13, 1921. A copy of the proceedings is appended. At the hearing it was brought out that the bill as introduced was not clear as to the status of the enlarged park under the Federal Power Act and its amendment which had been recently enacted. The Park Service and the Forest Service and all the organizations favoring the project urged that the bill be amended so as to place the enlarged park in precisely the same status as all existing national parks.

7. On January 20, 1922, the committee reported the bill to the House of Representatives with the recommendation that it do pass, with the amendment:

"That no permit, license, lease, or authorization for dams, conduits, reservoirs, power houses, transmission lines, or other works for storage or carriage of water, or for the development, transmission, or utilization of power within the limits of said park as herein constituted, shall be granted or made without specific authority of Congress."

* It will be observed that this is substantially the wording of the so-called

Jones-Esch Act, approved March 3, 1921, amending the Federal Power Act so as to remove national parks, as then constituted, from its operations.

8. In its present form, therefore, the bill to enlarge the boundaries of the Sequoia National Park and give it the title of the Roosevelt-Sequoia National Park stands approved by the United States Forest Service, the National Park Service, and a very large number of public organizations, both local and national, in all parts of the country. All objections that have been raised in the past have apparently been met, and only the new and suddenly interjected opposition of the Los Angeles Bureau of Power and Light remains to hinder the establishment of this important and greatly desired addition to our national-park system. In this connection, it is particularly pertinent to observe the action of the San Joaquin Light and Power Company in respect to its applications for power-sites within this area. At the hearing before the House Committee on December 13, 1921, there was quoted a telegram from Mr. A. G. Wishon, president of that company, to the Director of National Parks, as follows:

"Regarding formation Roosevelt-Sequoia National Park, which includes South and Middle Fork of Kings River, San Joaquin Power is quite willing to cancel its filings on Bubbs Creek and Roaring River that are in that area and waive all objections so as to contribute to a lasting and appropriate monument to Col. Roosevelt, and to your desire to clear title to all adverse claims."

9. With this record before you, we do not believe it necessary to go into any description of the character of the region involved in order to demonstrate its value as a national park. We assume that it is recognized by all parties that it is a region remarkable for the beauty and diversity of its scenery, unusually well adapted to the purposes of recreation and other purposes of a national park. Two questions remain, then:

1. Are these applications based upon a sufficiently urgent need to justify the impairment of the natural beauties of the sites and their free use for purposes of public enjoyment and welfare?

2. Is it consistent with the dedication of this region as a national park to permit within its limits such commercial developments as those contemplated in the applications before the commission?

10. It is well known to those familiar with the region of the Sierra Nevada that the main lines of travel therein are through the great cañons of the main streams. In these cañons are the principal stopping-places and bases for excursions into the rugged country of the higher altitudes. The Yosemite Valley is a striking illustration. It would be difficult to conceive of any extensive travel in the regions of the Yosemite National Park without using that valley as a base. The cañon of the South Fork of Kings River is a very close counterpart of the Yosemite Valley, both in its scenic features and in its relation to the surrounding country. The area available for hotel, camping, and administrative accommodations in the Kings River Cañon is, however, even more restricted than in the Yosemite Valley. The congested condition of the latter is already a problem in park management, and it is easy to foresee a time when the Kings River Cañon will afford all too little space for the requirements of the public. To flood this valley, as proposed in the Los Angeles applications, would not only restrict, but would absolutely destroy, the use of this spot for a

purpose essential to the use of the surrounding country as a park. For these reasons, if for no others, the applications for the sites in the Kings River Cañon, marked "d" and "e" on the maps, should be denied.

11. The Middle Fork of Kings River is a region that must be considered by itself, as it is separated from the South Fork by a high divide crossed only at a pass more than eleven thousand feet in altitude. Travel in this region absolutely requires a base of its own, and the only opportunities for such a base are at Simpson Meadow and Tehipite Valley. These locations are much less extensive than the South Fork, and neither one alone will be sufficient to provide for the needs of the travel that is rapidly increasing in the Middle Fork. The applications for sites, if granted, would completely submerge the only level ground in this entire region and would act as an insurmountable obstruction to travel.

12. The use of Paradise Valley as a reservoir would operate as a restriction in much the same way. This valley is one of the most popular camping-places today. It will unquestionably become the most used of all the upper valleys for the type of outdoor camp that is becoming such a feature in the life of people from the cities and towns, who come as families into the mountains during the heat of summer.

13. The remaining site applied for by the city of Los Angeles, at the junction of the South and Middle Forks, is, we admit, of less importance in the use of this region as a park. Our objections to the use of this site for water-power development rests largely on other grounds. One important reason for including in the park the territory formed by the angle of the two forks, as well as the lower slopes on the opposite banks of the streams, is to afford winter range and protection for game. The wild animals are an important element in any national park, and their protection and subsistence are elements that should receive careful attention. The introduction of reservoirs, power-houses, and transmission-lines in this vicinity will act as a distinct detriment to the wild life.

14. Objection is also made to all of these applications on the ground that the use of these sites for power development will seriously impair the natural beauty of some of the choicest spots in the proposed park. In our opinion, no artificial lake can take the place of the beautiful flowery meadow and stately pine groves of Simpson Meadow, nor of the dashing stream that so enhances the marvels of Tehipite, nor of the forests and glades of the Kings River Cañon and Paradise Valley. These spots are among the rarest and most beautiful in our country. They will soon be among the few remaining examples of natural splendor untouched by the marks of civilization. As such they are far too precious to be destroyed.

15. Upon the more general ground that commercial developments are inconsistent with the use of territory for a national park, we have only to quote the utterances of officers of the Government and the actions of Congress.

a. From a statement of Hon. John Barton Payne, then Secretary of the Interior, before the Senate Committee on Irrigation, March 1, 1921:

"The conflict between the demands of commerce and the preservation of these wonder-places involves constant vigilance. In my view

their preservation is of the first importance. It should be the settled policy of the country, regardless of any question of utility, that when in the wisdom of the Congress national parks or monuments are definitely set apart they must be preserved in their integrity, forever free from any form of commercialization.

"If this principle is not recognized, and commercialization in any form is allowed to creep in, it will be only a question of time when our Wild West will be only a memory and the big game of our country will be extinct, and these places and objects, now so wonderful, will be seriously and permanently injured."

b. From a letter from Hon. Albert B. Fall, Secretary of the Interior, to Hon. Charles L. McNary, Chairman, Committee on Irrigation and Reclamation, United States Senate, June 1, 1921:

"I do not believe it would be advisable for Congress to permit private interests to develop irrigation or power sites within the limits of existing national parks. These parks were created by Congress for the preservation of the scenery, forests, and other objects of beauty and interest in their natural condition, and they are created and maintained for general and national purposes as contradistinguished from local development.

"If cases be found where it is necessary and advisable in the public interest to develop power and irrigation possibilities in national parks, and it can be done without interference with the purposes of their creation, I am of the opinion that it should only be permitted to be done, whether through the use of private or public funds, on specific authorization by Congress, the works to be constructed and controlled by the Federal Government."

c. From a statement by Mr. W. B. Greeley, Chief of the United States Forest Service, before the Committee on the Public Lands, House of Representatives, December 13, 1921:

"I do not think we should create a national park without making it a real national park. It should not be a national forest under a different name. This question of recreation and scenic values on the one hand as compared with commercial values on the other should be frankly faced and settled. If the area is to be a national park, its recreational and scenic values should be fully and absolutely protected, so that they cannot be broken into by commercial development unless Congress should so decide."

d. The action of Congress in amending the Federal Water Power Act by the Jones-Esch Act, approved March 3, 1921:

The Federal Water Power Act as originally passed included the national parks and monuments in the public territory open to water-power applications before the Federal Power Commission. When the significance of this was pointed out Congress proceeded promptly to pass an amendment to the effect that no water-power or storage development should be permitted within the limits as now constituted of any national park or national monument without specific authority of Congress.

e. The action of the Committee on the Public Lands, House of Representatives, in reporting favorably the Barbour Bill to establish the Roosevelt-Sequoia National Park:

The amendment was made in committee for the definite purpose of placing the proposed park extension upon the same basis as the existing national parks under the Jones-Esch Act.

f. Finally, the organic act establishing the National Park Service (39 Stat. 535), approved August 25, 1916, in which the following words are used:

"The service thus established shall promote and regulate the use of the Federal areas known as national parks, monuments, and reservations hereinafter specified by such means and measures as conform to the fundamental purpose of the said parks, monuments, and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

16. The value of national parks in the economic life of the nation is, we believe, well established and thoroughly understood. They are of particular value to the adjacent communities, not only because they afford the advantages of recreation to those communities, but because they attract travel from all parts of the country, and indeed of the world. This travel is an advantage to the communities, because money is spent by travelers, and especially because those travelers stimulate investment and settlement in the regions with which they are impressed. Hon. Franklin K. Lane, then Secretary of the Interior, stated before the House of Representatives Public Lands Committee in January, 1919, in advocating the establishment of this park:

" . . . We don't appreciate just what it means to us in money. But we are going to keep in the United States hundreds of millions of dollars every year by reason of having those parks.

" . . . Probably \$100,000,000.00 would not be an exaggeration of the amount of money from the United States that normally goes into Switzerland in a year. Let us keep the great body of that money at home. It all tends, of course, to develop the life and the neighborhood of the parks."

17. That there has been a rapid growth in the number of visitors to the national parks is indicated by the statistics furnished in the annual report of the Director of National Parks. In all of the parks the number of visitors has increased from approximately one-quarter of a million in 1911 to a little over a million in 1921. In Yosemite National Park alone the increase has been from 12,500 in 1911 to 91,500 in 1921. To form a just conception of the tendency of this increase the figures of the most recent years should be especially considered. A curve of probability based on these figures indicates unquestionably a very much larger number within a short time. These statistics are referred to because they show that the demands upon the national-park system are likely to increase just as rapidly as those of urban communities for hydro-electric power.

18. For these reasons the Sierra Club requests that any and all applications to the Federal Power Commission and the Division of Water Rights, Department of Public Works, State of California, for water-power or storage sites located within the boundaries of the proposed Roosevelt-Sequoia National Park, as defined in the bill now pending in Congress (H. R. 7452), be denied in the interests of the welfare of the people of the United States.

FORESTRY NOTES

BY WALTER MULFORD

Happily for all of us who wish to see the present constructive forest policy of the Federal Government continued, Secretary of the Interior Fall's attempt to transfer the national forests to his care has failed. Great credit is due Forester Greeley and Secretary of Agriculture Wallace, and to the many agencies which helped them to block what was apparently a dangerous reactionary move to throw open the resources of the national forests under policies more unfavorable to conservation than those now in force.

IN THE MOUNTAINS

Lightning Zones.—The Office of Research of the United States Forest Service has completed a study of lightning fire-zones in California which may be of value in reducing losses from lightning fires. Data accumulated over a period of twelve years make it possible to define the areas in which lightning is apt to start forest fires and the seasons of greatest danger. It thus becomes possible to rearrange the distribution of fire guards so as to have more of them close to danger zones. Incidentally, the study has shown clearly that lightning does strike twice in the same place!

The importance of lightning as a cause of forest fires is indicated by the fact that the lightning fire-zone in California covers nearly eleven million acres, and that on the average nearly 350 forest fires per year in California are due to this one cause.

The Course of Storms.—For the past two years fire-lookouts of the United States Forest Service have been collecting data on the formation and movement of individual thunder-storms. For example, Lookout A reports that at 2:15 P.M. on August 6th a thunder-head formed twenty miles southeast of him and moved north at a speed of twenty miles per hour. Lookout B gets a cross-shot on the same storm. Lookout C sights it at 3:30 P.M., and thus the progress of the storm is traced. The information as to the places of origin, the usual paths, and the speed of travel of thunder-storms may make it possible to notify rangers and guards a few hours in advance as to when and where lightning-storms are likely to strike in their districts.

Fire and Hunters.—The year 1922 proved to be a serious forest-fire season in California. The United States Forest Service fought 991 fires inside and immediately adjacent to the national forests. These fires covered an area of about 290,000 acres of timberland, potential timberland, and brushland protecting watersheds. It cost \$146,000 to fight them. Seventy-four per cent of the fires of 1922 are directly attributable to human agencies. Smokers alone started 333 fires.

One of the most vexing problems is presented by the large number of hunter fires—a number that has been steadily increasing. These fires, with few exceptions, are the direct result of carelessness. The use of tobacco by hunters

is almost universal. In the heat of the chase a dropped match, the remains of a cigarette, or the butt of a cigar are the beginnings of some of the worst conflagrations that have occurred in our forests. Fires started by hunters occur in the most inaccessible areas and in the roughest terrain, where fire suppression is difficult and often delayed. Unfortunately, the present hunting season in this state coincides with the peak of the fire season when climatic conditions are most severe. Smokers, campers, and lightning are always heavy contributors to the fire problem of August and September; but the eighty-two hunter fires of September, 1922, were a breaking burden.

The Forest Service and the industries dependent upon the resources of the national forests are recognizing that every effort must be made to reduce the number of man-caused fires. The hunter problem could be partially solved by changing the present hunting season to a later date—that is, October 1st—throughout the state.

Camp-Fire Permits.—*Camp-fire permits are now required in all national forests in California.* This rule was put into effect in 1922 and produced good results. The Secretary of Agriculture has recently authorized a regulation whereby, during periods of great fire hazard, designated areas within the national forests may be closed to the public, and smoking may be prohibited except at improved camp-grounds. This policy has not yet been put into effect, and it is hoped that the public may become so much more careful with fire as to make unnecessary such stringent measures.

Public Camps in the National Forests.—By the close of 1922 the United States Forest Service had improved or partly improved seventy public camps in the national forests of California. Their improvement has cost about \$60,000, of which approximately two-thirds has been donated by co-operators. The cost of installing the necessary conveniences is from \$250 to \$1000 per camp.

Between 5,000,000 and 7,000,000 people visit the national forests of the United States each year. It is estimated that over 250,000 people used the seventy California camps during the 1922 season. The demand is so great, and is increasing so rapidly, that there is urgent need for development of at least a portion of the nearly three hundred additional public camping-places that are known to be available in this state. Both public and co-operative funds will need to be forthcoming if development is to keep pace with the demand.

Continuous Forest Production and the Largest Sale of Timber.—In 1922 the United States Forest Service sold nine hundred and ninety million board feet of pine and fir timber of the Lassen National Forest to the Fruit Growers Supply Company of Los Angeles. This company owns about an equal amount of timber, thus bringing the total amount available up to almost two billion board feet. The significant fact in this transaction is that plans have been made to harvest the timber from both the government and private lands in such a way as to make possible what the forester calls a sustained yield. This means that the amount to be cut each year will be so planned that the supply of old timber will last until second-growth which will start on the areas first logged becomes old enough to furnish in its turn material for the sawmill.

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Also, definite measures will be taken to insure the proper starting and care of the second-growth forest. This is the largest timber-sale transaction in the history of the Forest Service. The bulk of the product will be box-shook, to be used by the many thousand citrus-growers who make up the membership of the California Fruit Growers Exchange.

SOUTH OF THE TEHACHAPI

Co-operation by the Southern California Section of the Sierra Club.—The above national-forest notes apply to the southern ranges of the state as well as to the Sierra Nevada. One item from the Southland should be added: the Southern California Section of the Sierra Club has furnished the supervisor of the Angeles National Forest with funds for the purchase of attractive bulletin-boards for installation at resorts on the forest. On each bulletin-board there is a forest map, forest-fire regulations, a summary of the game laws, and a brass plate giving the name of the co-operator. The Southern California Section has also co-operated with the supervisor of the Cleveland National Forest by supplying funds to install signs on some of the public camp-grounds.

Another Fire-Line in Los Angeles County.—During the winter of 1922 a new fire-line (fire-break) twenty-seven miles in length was built in the Verdugo Hills and the Malibu Range under a joint appropriation of forty thousand dollars by Los Angeles County and the state. The work under this appropriation is to be completed during the winter of 1923 in the same locality. Through the co-operation of interested landowners, arrangements have been made for the construction of about fifteen miles of lateral fire-lines which could not be built under the regular appropriation.

THE FOOTHILLS AND VALLEYS

Forest-Fire Protection by the State.—The State Board of Forestry has maintained and made still more effective its force of twenty-five district rangers, whose work is in forest-fire protection outside the national forests and national parks. The expense is borne equally by the state and federal governments under the terms of the Weeks Law.

Highway Tree-Planting.—In 1920 a state forest nursery was established near Davis to provide trees for highway planting. The nursery is one of the activities of the State Forester, who assigns the trees raised in the nursery to various localities in accordance with a systematic planting plan. The planting is done by the organizations to which trees are given. Thereafter the trees are maintained by the State Highway Commission. Tree-planting permits for one hundred miles of highway were issued by the Highway Commission from 1920 to July, 1922.

CALIFORNIA'S GREAT NORTHWEST

The Humboldt State Redwood Park.—The year 1922 has seen the establishment of the Humboldt State Redwood Park, extending along the California State Highway between Miranda (231 miles north of San Francisco) and Dyerville Flat, Humboldt County. The park is a strip of timberland on the highway side of the South Fork of the Eel River, about twelve miles in length, varying in width from an eighth to a half mile, and containing about two thousand acres. All the land required for this park, except two small tracts,

has now been acquired by the State Board of Forestry and the Save-the-Redwoods League. The State Board of Forestry still has in hand sufficient money to purchase these two tracts. From the state appropriation of 1921 the State Board of Forestry has also acquired the Devoy Flat, Humboldt County, which is just north of the Mendocino County line and outside the main park area. The Phillipsville Grove, also outside the main area, has been deeded to the state by the Save-the-Redwoods League. Thus almost all of the important redwood groves on the State Highway south of Dyerville Flat, excepting only Lane's Redwood Flat in Mendocino County, are now assured of preservation. Lane's Redwood Flat is a resort and in no danger of being cut.

The following appropriations and gifts have been applied toward the preservation of the redwoods in Humboldt County:

State of California	\$300,000
Humboldt County	85,000
William Kent	15,000
Stephen Tyng Mather	15,000
Mrs. James Hobart Moore	13,500
Dr. J. C. Phillips	32,000
Edward E. Ayer	2,500
Mrs. Frederic Saltonstall Gould	2,000
Total	\$465,000

In addition, the Hammond Lumber Company, Standish & Hickey, and the Big Lagoon Lumber Company have each made gifts of timber along the highway, and twenty-five hundred dollars was expended from the funds of the Save-the-Redwoods League for the purchase of forty acres adjoining the Bolling Memorial Grove. The total value of timber recently saved is thus above five hundred thousand dollars.

In purchasing lands from the state appropriation the State Board of Forestry has paid their commercial value and no more. All lands were purchased on a stumpage basis. Payments were withheld until a check-cruise had been made by a reputable timber-cruiser chosen by the state. The following tables give the details of the total area of 2259 acres of coast redwood thus permanently preserved for the use, not only of Californians, but of all America.

LANDS SECURED UNDER STATE APPROPRIATION

Name of Owner	Acres	Price	Amount Timber (board ft.)	
			Redwood	Fir
*Vance Bottom	297	\$36,219.16	19,270,000	320,000
Sage Land and Imp. Co.	394	60,000.00	16,944,600	582,200
Melinda Stoddard, et al	160	22,155.96	7,234,040	414,700
Standish & Hickey	40	2,000.00	1,600,000	75,000
Logan Estate	396	70,000.00	21,230,000	97,500
Devoy & Gillogly	120	30,000.00	9,387,000	250,000
†R. C. Chapman	47	22,000.00	4,825,000	55,000
Baldwin & McKinnon	200	18,932.60	6,371,000	786,000
Totals	1654	\$261,307.72	86,861,640	2,580,400

* This grove was secured at a total cost of \$61,219.16; \$30,000 was contributed by William Kent and Stephen T. Mather, and \$25,000 was paid the owners towards the purchase of the tract. The remainder of the donation of Messrs. Kent and Mather was absorbed by taxes, interest, etc.

† Mrs. Clara Hinton Gould contributed \$2,000 towards the purchase of this grove, which was paid in addition to the \$22,000 above referred to.



LITTLE SLIDE CAÑON, NORTH OF SLIDE CAÑON

Photo by Capt. L. Grover



CIRQUE MOUNTAIN FROM BARNEY LAKE, A FEW MILES EAST OF TOWER PEAK
Photo by Com. L. Grover

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GIFTS TO THE STATE

Name of Donor	Acres	Name of Donor	Acres
Mrs. Perrott, et al	15	Mrs. J. Hobart Moore	150
Hammond Lumber Company	30	Mr. E. E. Ayer	
Humboldt County	275	Standish & Hickey	40
Dr. Phillips	35	R. C. Chapman	7
Save-the-Redwoods League	40	Big Lagoon Lumber Co.	7
Standish & Hickey	3		
Total			605

Hearty Support by the Redwood Lumbermen.—The lumber companies of the redwood region have been unanimous in their desire to co-operate with the Save-the-Redwoods League and the State Board of Forestry in preserving representative areas of the finest redwoods. Three companies have made generous gifts of redwood timber.

Notable Development of Forestry in the Coast Redwood Region.—Remarkable progress in forestry in Humboldt and Mendocino counties was made in 1922. The redwood lumbermen of these counties now lead the entire United States in the adoption of definite policies providing for the production of continuous crops of timber. Unless unforeseen obstacles cause a change in the plans now adopted, future generations are assured of an unending supply of redwood products. Furthermore, cut-over redwood lands need no longer constitute an eye-sore to the passer-by. With fire protection and the very extensive planting of redwood trees in the open places between the clumps of sprouts, for which definite provision is being made, cut-over lands will again quickly have a green carpet. Second-growth cannot have the majesty and wonder of the virgin redwood forest. We must by all means keep a reasonable amount of that virgin forest. But the great majority of the redwood region must of necessity be logged, and it is right that it should be so. It is therefore fortunate for us that a young redwood forest is in itself a thing of great beauty.

Two large forest nurseries have been established—one by the Union Lumber Company, at Fort Bragg; the other by the Pacific Lumber Company, at Scotia. At the former four hundred thousand trees are already growing and will soon be planted in the Mendocino County hills. Both these nurseries are in charge of graduates of the Division of Forestry of the University of California.

The Klamath Country.—The spectacular Klamath River road which has been under construction by the Federal Government for the past four years was finished and opened to the public in the fall of 1922. Of the total cost (about \$1,200,000), all has been paid from the appropriations for national-forest roadwork except forty thousand dollars contributed by Humboldt County and the same amount from the state. Siskiyou and Humboldt counties have pledged themselves to the Government to maintain the highway in first-class condition.

Although built by the Government with the primary object of opening up the vast interior region of the Klamath National Forest with its twenty-eight billion board feet of timber, this road will have a far-reaching effect upon the development of the whole northwestern part of the state.

The new road begins at the end of the Siskiyou County road near Happy Camp and for fifty miles follows down the rugged cañon of the Klamath River, connecting with the Humboldt County road at Orleans. Although famous in

the early days for its rich placer workings, the locality has been accessible heretofore only by rough pack-trails, and the trip from Happy Camp to Orleans has required at least two days of hard travel.

The road will make accessible the many small but productive ranches in the cañons and on the bars along the Klamath. It will be of immeasurable advantage in the protection and management of the great national forest which it traverses. It also completes a through route across the mountains from the upper Sacramento Valley to the coast country. It will now be an easy one-day trip from Sisson, Dunsmuir, and Yreka by a low water gradient all the way to Eureka and Crescent City. The country through which the route passes is perhaps nearer to a wild, primeval condition than any other part of the state. In rugged scenic beauty the entire locality is said to be unsurpassed. The region abounds with excellent fishing and in opportunities for big-game hunting.

This project is the largest of any yet finished in the Government's program of providing the national forests of the United States with an adequate transportation system. Of recent years Congress has been according increasing recognition to the need of better roads and trails in serving the forests. In the fall of 1921 an appropriation of fifteen million dollars was made for continuing the nation-wide construction program.

INSTRUCTION IN RANGE MANAGEMENT

The Division of Forestry of the College of Agriculture at the University of California blazed a new trail in 1922 by the establishment of a strong four-year course in range management or grazing. The need of scientific research and instruction in this new field has been felt for some years. The utilization of the grazing resources of the national forests touch, and even overlap, at so many points with the use of those forests for timber production and for recreation, that it is fortunate to have the work incorporated with the other activities of the forest school at Berkeley. The university has been fortunate in securing a strong man, Dr. A. W. Sampson, to lead the work.

BOOK REVIEWS

MOUNT EVEREST EXPEDITION* The account of the Mount Everest Expedition of 1921 is the most important contribution to geographic and mountaineering literature that has been placed before the public in many years. It is a fascinatingly interesting account of that vast unknown region of the central Himalaya which, due to religious and political prejudices, has up to the present time remained a sealed book, and which contains the giant peak Everest, the highest point upon the earth's surface. The attainment of this summit is the last great geographic prize yet to be conquered.

For many years the desire to explore the Everest region had been strong among mountain men, particularly among members of the English Alpine Club, who had done much of the Himalayan mountain-climbing in the past. But Mount Everest lies upon the boundary between Nepal and Tibet, and into neither of these countries have foreigners ever been allowed freely to penetrate. So far as Nepal is concerned, this state of affairs still exists, but of late years the policy of the Tibetan government has become sufficiently liberal to allow the passage of a small scientific party of explorers. Accordingly, the Mount Everest Expedition was organized by the joint action of the Royal Geographic Society and the English Alpine Club of London, and was ready to take the field in May of 1921.

The party was under the general command of Lieutenant-Colonel Howard-Bury. The mountain-climbing party originally consisted of Harold Raeburn and Dr. A. M. Kellas, experienced Himalayan climbers, and members of the English Alpine Club, and, in addition, two younger men, George L. Mallory and C. H. Bullock, the latter of the Consular Service. The topographic party included Majors H. T. Morshead and O. E. Wheeler, of the India Survey. The geological work was under Dr. A. M. Heron, and Mr. A. F. Wollaston acted as naturalist.

The introduction to the book is by Sir Francis Younghusband, president of the Royal Geographical Society. In it is given a history of Himalayan exploration culminating in the organization of the present party. The principal narratives are by Colonel Howard-Bury and George Leigh-Mallory.

In brief, the party left Darjeeling in May, pushed straight north through Sikkim, and across the Himalayan range into Tibet. They continued north along the Lhasa road through Tibet to Dochen on the shores of Lake Bamtso, and then turned west, traveling parallel with the northern base of the Himalaya across the great plateau of Tibet for a distance of about 175 miles to Tingri Dzong, where their main base of operations was fixed forty-five miles north of Mount Everest. During this portion of the journey the route was between 14,000 and 17,000 feet above sea-level, and the base at Tingri Dzong

* *Mount Everest: The Reconnaissance—1921.* By LIEUTENANT-COLONEL C. K. HOWARD-BURY, D.S.O., and other members of the Mount Everest Expedition. Longmans, Green & Co. Pages, 348. \$7.50 net.

was itself over 14,000 feet. The journey up to this point presented no difficulties other than those of transportation.

The party then split up into its special groups. One portion, under Colonel Howard-Bury, went straight south to Kyetrak, up the Kyetrak Glacier to the crest of the Himalaya at Khombu La (19,000 ft.), twenty miles west of Mount Everest. He then explored the region still farther to the west for a distance of twenty additional miles, returning to Kyetrak finally on July 1st. Meanwhile the climbing party, consisting of Mallory and Bullock, had pushed southeastward from Tingri Dzong and made headquarters in the Rongbuk Valley, which headed directly against the north wall of Everest. For a period of four weeks they explored this side of the mountain, trying every means of attack upon the great peak in the face of every sort of difficulty and danger due to weather, altitude, and snow conditions, but without success.

Mount Everest was found to consist not of a single dominating peak, but of a huge mountain mass from which three principal arêtes radiate—one to the west, one to the northeast, and one to the southeast. The Rongbuk Valley, in which they were working, drained all the area between the first two of these. For a distance of ten miles north of the mountain this valley is occupied by a large glacier, and above this, at its head, the Everest rises in one gigantic precipice for 10,000 feet sheer, making an ascent from this side out of the question. Mallory and Bullock explored the main glacier up to the base of the mountain, reaching an altitude of 21,000 feet, and also explored the west branch of the glacier, at the head of which they ascended to the crest of the main divide. From this point the southern side of Everest could be seen. They also climbed a peak on the west side of the main glacier 22,520 feet in height.

On July 19th all attempts on the north and west sides of the mountain were given up, and the climbing party joined forces with Colonel Howard-Bury, who proceeded around to the eastern side of the mountain to consider the possibilities of an ascent between the northeast and southeast arêtes. Here a base was made at Kharta, from which Colonel Howard-Bury explored the region to the south along the cañons of the Arun River, which here cuts entirely across the Himalayan range. Meanwhile the climbing party proceeded up the Kama Valley toward its objective, passing close beneath the stupendous masses of Chomo Lonzo (25,413 ft.) and Makalu (27,790 ft.). Again finding Mount Everest absolutely impossible of ascent from this the southeastern side, the climbing party proceeded over to the next valley to the north, the Kharta Valley, having been joined in the meanwhile by Colonel Howard-Bury and other members of the expedition. On the Kharta Glacier they established a camp at 20,000 feet, and finally succeeded in getting a considerable portion of the equipment to a pass at its head, the Lakpa La, which was on the lower portion of the great northeastern arête, here 22,000 feet above sea-level. On the other side was now seen a tributary of the Rongbuk Glacier, which headed against a pass, the Chang La, upon the north side of Mount Everest. Here for the first time was revealed what seemed to be a promising route to the summit. It was not possible for the whole party to proceed to this last pass, due principally to lack of equipment and supplies, but Mallory,

Bullock, and Wheeler with a few picked coolies crossed the head of the East Rongbuk Glacier and just succeeded in reaching the crest of the Chang La (23,000 ft. elevation). The intense cold and furious wind forbade further progress, but as far as could be seen no serious difficulties except those of cold and altitude would be encountered between this point and the summit.

Thus ended the work of the expedition, on the 25th of September, and the party returned to Darjeeling on October 25th. The object of the expedition—namely, the reconnaissance of the mountain and the selection of a possible route to the summit—had been successfully accomplished.

As will be surmised from the above brief account, the book is of absorbing interest to mountaineers, particularly that part by Mallory dealing with the assaults upon the mountain. It is illustrated by a great number of beautiful photographs of this the wildest of all mountain regions. It may be of interest to members of the Sierra Club to know that the 1922 expedition, which has lately returned, though it did not reach the summit, has broken the world's record for altitude attained. One party climbing without the assistance of oxygen reached a height of 26,950 feet, and a second aided by oxygen succeeded in reaching 27,300 feet. We all look forward with interest to the appearance of the complete account of this last attempt.

Preparations are already under way for a third attack upon the mountain next summer.

J. N. LE C.

THE DAYS OF A MAN* The appearance of David Starr Jordan's autobiography will, I believe, take rank as the most important literary event of 1923.

For while the book bears the publisher's date of 1922, it did not get into the book market until the early months of the current year. No one of our generation, not even the late Theodore Roosevelt, lived a life of richer content and more varied contact with the great personalities and events of our time. In these well-made volumes the story of it is set down in Dr. Jordan's lucid and engaging style, spiced by his quiet humor, and adorned with one hundred and twelve half-tone illustrations selected with unusual care. In short, it is a work of absorbing, often thrilling, interest, and while it is first and foremost a biography, it is a contemporary history of America, Europe, Japan, and the South Sea Islands as well. For Dr. Jordan's educational, scientific, and humanitarian interests carried him into all the corners of the earth. No review limited to the space available in the *SIERRA CLUB BULLETIN* could hope to give an adequate account of even one of the major interests represented in this work. Compelled to make a choice, I venture to cater to the Sierra Club's outdoor interest first. For Dr. Jordan was pre-eminently an outdoor scientist, beginning in his boyhood as an enthusiastic botanist, and becoming later one of the world's foremost authorities on fishes.

For many years he has been an Honorary Vice-President of the Sierra Club and a consistent supporter of the objects for which it was formed. Our members will turn with interest to chapter eighteen of volume one, where they will

* *The Days of a Man, Being Memories of a Naturalist, Teacher, and Minor Prophet of Democracy.* By DAVID STARR JORDAN. World Book Company, Yonkers-on-Hudson, New York. 1922. Vol. I, pages xxviii+710; vol. II, pages xxviii+906. Price, \$15.00.

find a vivid description of a vacation trip to the Big Trees and Yosemite in 1892. Among several good anecdotes is one about a "typical mountain prevaricator," met at Wawona, who related that once when a sequoia crashed to the ground "the echoes were heard in the mountains for six weeks"! In his comparisons of Yosemite's scenic features with the best that the Alps afford, Dr. Jordan finds a great preponderance of distinction on the side of Yosemite. In a later chapter he gives an entertaining account of a camping trip into the Kings River Cañon in 1899. On the way in he witnessed the fearful destruction wrought in the Converse Basin Grove of sequoias. Some of the trees were so large that they could not be sawed or chopped down, and therefore were blasted down with dynamite to be manufactured into cheap and petty articles like chalk-boxes. Of one of these sequoias, whose basal diameter had been thirty-five feet and whose annual rings, on account of splintering by dynamite, could not be counted, Dr. Jordan says "it is safe to say that it was upwards of five thousand years old." Here and there in these genial pages one encounters the revered figure of John Muir, whom he met for the first time in San Francisco in 1880.

In the summer of 1881 Dr. Jordan made the ascent of the Swiss Matterhorn, an experience not without elements of danger, for during the descent Gilbert, one of the party, was hit and knocked senseless by a large falling rock, and the task of getting him safely down from the precipices was no easy one. Dr. Jordan's description of this adventure makes eleven pages full of gripping interest.

A rich assortment of most interesting information about fishes is contained in those parts of the work that deal with Dr. Jordan's expeditions to gather first-hand information about the fishes of the Puget Sound region, of Utah, of American river basins, of Cuba, Colorado, Yellowstone Park, Alaska, Mexico, and Japan. It seems impossible that anyone will ever again have the opportunity to report, as was done after the Albatross Expedition of 1902, sixty-four species of new shore fishes, and two hundred and ten deep-sea forms.

Of commanding historical importance is Dr. Jordan's story of the founding of Stanford University. It is an intimate history, for, beginning with 1891, his own life has been a part of the record. Every Californian will be grateful for the telling of much that no one else could have told if Dr. Jordan had not done so. Yet much remains to be said which his modesty has left unrecorded. No hand less sure or brave or able than his own could have steered the newly founded university through the treacherous financial seas in which it found itself after Stanford's death in 1893. His loyalty to Mrs. Stanford never wavered, and the devoted faculty which he had gathered around him was equally loyal to its leader. The spirit which informed the men and women who made Stanford University is worth more than endowments.

There is not space to tell of the many notable men and women, not alone of California, but of all lands, of whom one catches fleeting or intimate glimpses in his pages. Dr. Jordan is generous in his recognition of character and achievement wherever he found it, and he has an uncommon gift for sketching personal characteristics in a few swift lines. His thumbnail sketch of Roosevelt, to mention but one, is masterly.

Many, I doubt not, will be surprised and delighted to find that Dr. Jordan has found time in his busy life to write poetry. What is more, it is of so high an order that more than twenty years ago E. C. Stedman included selections in his "American Anthology" and since then he has not been idle, as the fine verses sprinkled through this work attest. It is a great pleasure to call the attention of our members to these two fascinating volumes of memories.

WILLIAM FREDERIC BADÉ

ALPINE SKIING AT ALL HEIGHTS AND SEASONS* This practical and informative little volume by Arnold Lunn seeks to persuade mountaineers to take up ski-running, and to convert ski-runners of the plains into ski-runners of the mountains. The Swiss Alps are the background of Mr. Lunn's experience, but his descriptions, directions, and advice apply to practically all snow-covered mountains. The eight chapters discuss the following topics: Mid-Alpine Skiing; Snowcraft; Spring Skiing; Avalanches; Making the Best of Bad Conditions; The High Alps in Winter; Glacier Skiing, Roped and Unroped; Spring and Summer Skiing in the High Alps. Every mountain-climber should for his own safety read at least the two chapters on "Snowcraft" and "Avalanches." In one of the appendices the author gives full particulars, with diagrams, of a new turn discovered and perfected by himself, which he claims is the most generally useful of all turns for skiers. The book is attractively illustrated with eight half-tones of lovely winter landscapes in the Alps. We warmly recommend this compact little manual to all lovers of the noble sport of ski-running.

WILLIAM FREDERIC BADÉ

THE CALL OF THE MOUNTAINS† The author of this book is a member of a number of the leading mountaineering clubs of this and other countries.

He is the secretary of the Associated Mountaineering Clubs of North America, now comprising some fifty organizations. He has assembled and now supervises at the New York Public Library one of the important collections of mountaineering literature. He is himself a mountain-climber of no mean accomplishment, and he has climbed wherever we have mountains. Mr. Jeffers' official position, his library facilities, and his wide personal experiences in the high places of this continent naturally give to this book an authoritative place. His narrative is comprehensive in scope, and yet delightful in detail. Whether the reader follows him in the first ascent of Mount Moran, in Wyoming, or over the familiar trails of Yosemite, his interest is sustained. To one who wishes to gain a general idea of what a mountaineer can see and do in our various mountain regions, we can heartily commend this book. The type is large and clear; the illustrations are numerous, artistic, and informing.

* *Alpine Skiing at all Heights and Seasons*. By ARNOLD LUNN. E. P. Dutton & Company, New York. 1922. Pages, xii+116. Price, \$2.00.

† *The Call of The Mountains: Rambles among the Mountains and Canyons of the United States and Canada*. By LE ROY JEFFERS, A.C., F.R.G.S. With illustrations. Dodd, Mead & Company, New York. 1922. Pages xv+282.

THE OPEN SPACES* Every lover of the out-of-doors will enjoy this little volume by John C. Van Dyke. In the beginning he asks you to "follow, follow by stream and hollow, follow to No Man's Land," and that is just where he takes you. He has really lived out of doors, and he loves it. As he has traveled extensively in this country and in Europe, he draws interesting comparisons and tells tales of the life in the wilds of both continents. He deals, however, primarily with his experiences in the open spaces of America.

He has linked together his own adventures, and tells his story in such a simple and chatty manner that you feel as if you were sitting by the fire listening to his reminiscences.

M. KEELER

THE HEART OF NATURE† The author, Sir Francis Younghusband, is the well-known explorer and mountaineer, the pioneer leader of the English Expedition through Tibet to the forbidden city of Lhassa. Such a career, especially the last-mentioned undertaking, presupposes the possession of supreme courage, tact, leadership, and, above all, a genuine love of humanity as well as of nature.

In this volume the author not merely gives us glimpses of his unique experiences in the sublime places of the earth, but also reveals his own heart and his philosophy of life, which is love in, and love for, nature. It is the revelation of the inner life of a splendid gentleman—one "pure in heart" who surely "sees God."

H. M. LE C.

THE MINDS AND MANNERS OF WILD ANIMALS‡ To all students of animal life this is a book of unrivaled importance in its field, for no naturalist of Mr. Hornaday's rank has ever brought

together in systematic form such a choice mass of information as this volume includes. In order to indicate the scope and value of the author's personal observations, let us remind the reader that Mr. Hornaday also wrote *The American Natural History*, *Camp Fires in the Canadian Rockies*, and *Our Vanishing Wild Life*; that he has hunted and collected on scientific expeditions in all parts of the world, and that as Director of the New York Zoological Park he has constant opportunity to observe wild animals in captivity. Among the topics discussed in this book are the following: The Language of Animals; The Most Intelligent Animals; The Brightest Minds Among Animals; The Mind of the Elephant; The Mental and Moral Traits of Bears; The Mental Traits of Birds; The Morals of Wild Animals; The Laws of the Flocks and Herds; Fear As a Ruling Passion; Wild Animal Criminals and

* *The Open Spaces*. By JOHN C. VAN DYKE. Charles Scribner's Sons, New York. 1922. 272 pages. Price, \$2.00.

† *The Heart of Nature*. By SIR FRANCIS YOUNGHUSBAND. E. P. Dutton & Company. Pages, xviii+235. Price, \$5.00.

‡ *The Minds and Manners of Wild Animals: A Book of Personal Observations*. By WILLIAM T. HORNADAY, Sc. D., A. M. Charles Scribner's Sons, New York. 1922. Pages, xii+328. Illustrated. Price, \$2.50.

Crime. The reviewer takes pleasure in pointing out that this book is an overwhelming counterblast against the mechanistic naturalists, among whom, unfortunately, must be classed also the late John Burroughs. By sheer mass of most interestingly presented evidence of animal intelligence, this book makes the use of such an expression as "machines in fur and feathers" a reflection upon the judgment and knowledge of him who employs it. It is worth noting that Mr. Hornaday's observations of the minds of animals carried him independently to conclusions practically identical with those reached by John Muir. "Most sincerely do I wish," he writes in the preface, "that the boys and girls of America, and of the whole world, may be induced to believe that *the most interesting thing about a wild animal is its mind and its reasoning*, and that a dead animal is only a poor decaying thing." The book is attractively illustrated and immensely entertaining and informing.

WILLIAM FREDERIC BADÉ

* *

SKYLINE CAMPS* Californians are so constantly under the spell of their own High Sierra, they seldom find time for other regions. Glacier Park, the Appalachians, and the mountains and rivers of Oregon are beyond the experience of many Sierra explorers. *Skyline Camps* will stimulate a keener interest in these wonders. The great charm of this book rests in the ability of the author to describe in an accurate and objective manner the country through which he passes. One's imagination is greatly aided by the beauty and excellence of the photographs by F. H. Kiser. There is just enough of the story element present to make the reader expect eagerly the successive events of the book. Most interesting is the perilous and arduous ascent of Mount Jefferson, in Oregon. The graphic account of this trip, together with the visits to Lake Chelan, Crater Lake, and other regions of eastern as well as western mountains, completes a narrative of real worth.

EDWARD V. TENNEY

* *

INCA LAND† *Inca Land* will reward all those readers who are interested in the early history of America or the unfrequented mountains, usually so inaccessible.

The story opens with a description of the ascent of Coropuna, one of the most lofty and difficult of the Andean peaks. After reading this account, one can readily appreciate the hazards of mountain-climbing at very high altitudes, for Coropuna is even higher than Mount McKinley, where the dangers of ascent are so well known.

The main theme of the book, however, is the life of the Incas. Inca and pre-Inca ruins are vividly described and their ancient civilization seems to live anew.

**Skyline Camps*. By WALTER PRICEARD EATON. W. A. Wilde Co. 1922. 245 pages. Illustrated. Price, \$2.50.

†*Inca Land*. By HIRAM BINGHAM. Houghton Mifflin Co., Boston. Illustrated. 340 pages. Price, \$5.00.

The photographs are illuminating and also quite numerous. However, a few more, supplemented by reconstructed drawings, might be of great value; they certainly would assist the reader's imagination.

Throughout the natural beauties of the country are never lost to mind, and one imagines the power that these peaceful valleys and majestic mountains must have had over the Incas. After reading *Inca Land*, the mountain-lover will feel the mystery and romance of this beautiful country and experience a strong desire to visit it.

EDWARD V. TENNEY

DENIZENS OF THE DESERT* The deserts of the American Southwest have a peculiar attraction for many lovers of the out-of-doors, and not the least of the subjects of interest there are the many and diverse forms of desert animals. Heretofore, accounts of these animals were to be found only in general works on natural history or in special scientific publications. Mr. Jaeger's recent volume supplies a real want in providing a book which tells in a simple and highly entertaining manner something about the commoner animals of the deserts of Arizona, California, and Nevada.

Denizens of the Desert deals with the mammals, birds, reptiles, and insects which the ordinary traveler is likely to meet on the desert. The subject-matter is presented in pleasant conversational style, and at the same time is strictly accurate from a scientific standpoint. Personal experiences of the author form the bulk of the work, for Mr. Jaeger has spent much time during the past ten years on the desert. In addition, there are occasional bits gleaned from some of the more reliable human inhabitants of the desert, and also from available scientific writings. Attention is paid to popular beliefs concerning various species. The book comprises twenty-eight chapters, each dealing with the life of some one particular desert animal. The California Road-Runner; The Pack Rats of the Desert; Don Coyote; *Latrodictus*, the poisonous black spider; The Sidewinder; The Desert Tortoise; The Spotted Skunk—these are the subjects of a few of the outstanding chapters. It is a pleasure to be able to recommend the book to all who are interested in the desert. TRACY I. STORER

WESTERN BIRDS† The author of *Western Birds* has evidently sensed the need for a book dealing in popular fashion with the birds of the western states, and in presenting her work to the public she has endeavored to fill this need. The book deals with land birds, omitting the quail, pigeons, hawks, and owls. Thus it includes more than the "song-birds" mentioned in the preface. The exact territorial area included in the term "western" is not indicated, for notable western species, such as the Cactus Woodpecker, Pileated Woodpecker, Gilded Flicker, and Yellow-billed Magpie, are omitted, while several species which range no farther "west" than the Mississippi Val-

* *Denizens of the Desert*. By EDMUND C. JAEGER. Houghton Mifflin Company, Boston. 1922. 299 pages. Illustrated. Price, \$3.00.

† *Western Birds*. By HARRIET WILLIAMS MYERS. The Macmillan Company, New York. 1922. 391 pages. Illustrated. Price, \$4.00.

ley or eastern Rocky Mountains are included. For some families of birds there are brief introductory accounts preceding the accounts of individual species. The species chapters deal with the range, coloration, voice, nesting habits, and food, the extent of treatment varying widely with different species. Those with which the author is familiar are discussed extensively on the basis of personal experience. Other species which, to the reviewer, merit equal attention are often dismissed with a few sentences. In some instances two or more subspecies which differ but slightly are given separate headings. The Raven and Crow, distinct species, are combined into one brief chapter. The author is obviously unacquainted with much of the more important and more accessible literature relating to western birds. For example, the statement is made concerning the Black Swift that "little is known of its nesting habits" (p. 45). On the nesting of this species two articles, one well illustrated, have appeared in recent years in *The Condor*. On pages 37 and 40 quoted paragraphs relating to the voice of the Flicker are repeated verbatim without obvious purpose. The statement (p. 253) that "most western species are so nondescript as to be most maddening" is scarcely in accord with the experience of other observers. The ranges of the Chestnut-backed and Mountain Chickadees (pp. 333-334) are not clearly separated. Only one subspecies of Wrentit is described, yet this is the most distinctive of all western birds!

The book abounds in typographical errors, particularly in the scientific names. On page 41 the genus of the Poorwills is indicated as including the humming-birds as well. The species name of the Black-throated Gray Warbler is given (p. 268) as *gracia* when it should be *nigrescens*. On page 234 the name *Bombycilla* is an error for *Stelgidopteryx*. The chapter headings generally seem to the reviewer to give undue emphasis to scientific names.

The illustrations comprise a number of half-tone plates, partly of living birds photographed by the author and others, and partly of poorly mounted birds. The captions, however, do not distinguish between these two categories.

Throughout the book every effort is made to indicate a beneficial economic status for birds, sometimes even in the face of adverse evidence.

There are, on the other hand, a number of chapters relating to species with which the author was quite familiar that are interesting and informing. The reviewer feels that *Western Birds* would have been more successful and more useful had it been confined to an account of the author's personal experience with birds.

TRACY I. STORER

MY It is a surprise to the reviewer not previously a student of John BOYHOOD* Burroughs' writings that he is really a literary man, rather than a professional naturalist.

This account of his boyhood fascinates one. It is recorded with Homeric simplicity, and makes of the so-called sordid farm-tasks a real epic worthy to be placed beside Homer's story of the swineherd, who loved his swine and gloried in his work whilst waiting the return of his wandering master, Ulysses.

It is of doubtful value that to this simple tale his son should have added the

* *My Boyhood*. By JOHN BURROUGHS. Doubleday, Page & Company. 247 pages.

letters proclaiming Burroughs' domestic troubles. However, even these matters the author mentions with his customary calm, as only a cursory part of his life experience. The charm of the sketch lies in its plain statement of simple truth, its childlikeness.

H. M. Le C.

• •

THE Realizing the tremendous importance of the cattle and horse industry in the opening up of the Middle West to later settlement by agriculturists, Mr. Rollins writes a most conscientious history of the origin, and physical and mental characteristics of the cowboy who entered the Indian-infested plains with cattle and horses originally imported from Mexico.

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H. J. S.

• •

MAMMALS OF The most up-to-date list available, the last one having been CALIFORNIA† made ten years ago.

W. F. B.

* *The Cowboy*. By PHILIP ASHTON ROLLINS. Charles Scribner's Sons, New York. 1922. 353 pages. Price, \$2.50.

† *A Systematic List of the Mammals of California*. By JOSEPH GRINNELL. University of California Publications of Zoology. 1923. Vol. 21, No. 10, pp. 313-324.

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